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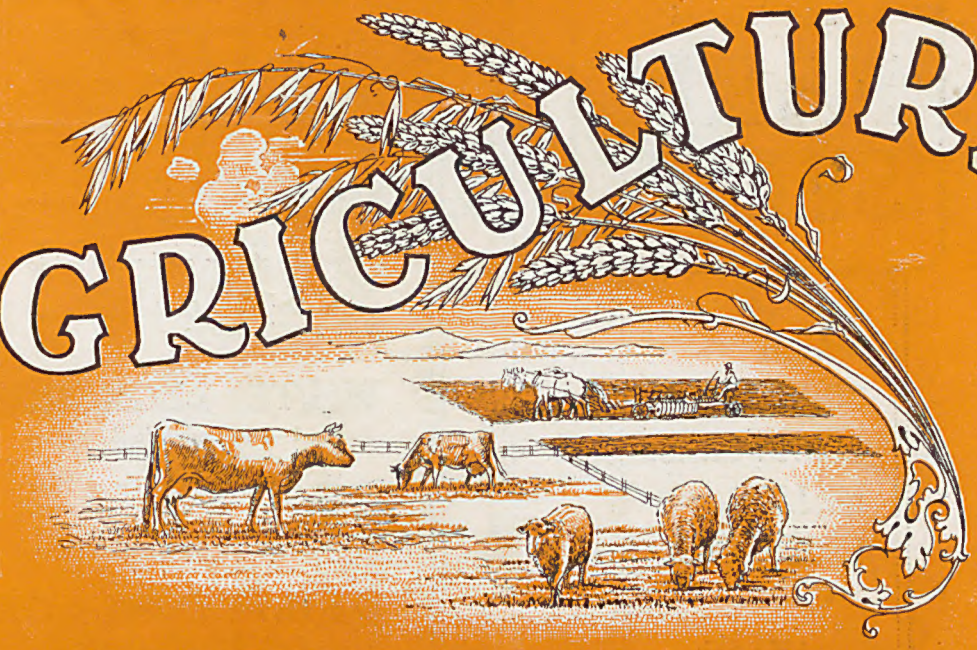
THE JOURNAL OF THE DEPARTMENT OF AGRICULTURE OF VICTORIA, AUSTRALIA.



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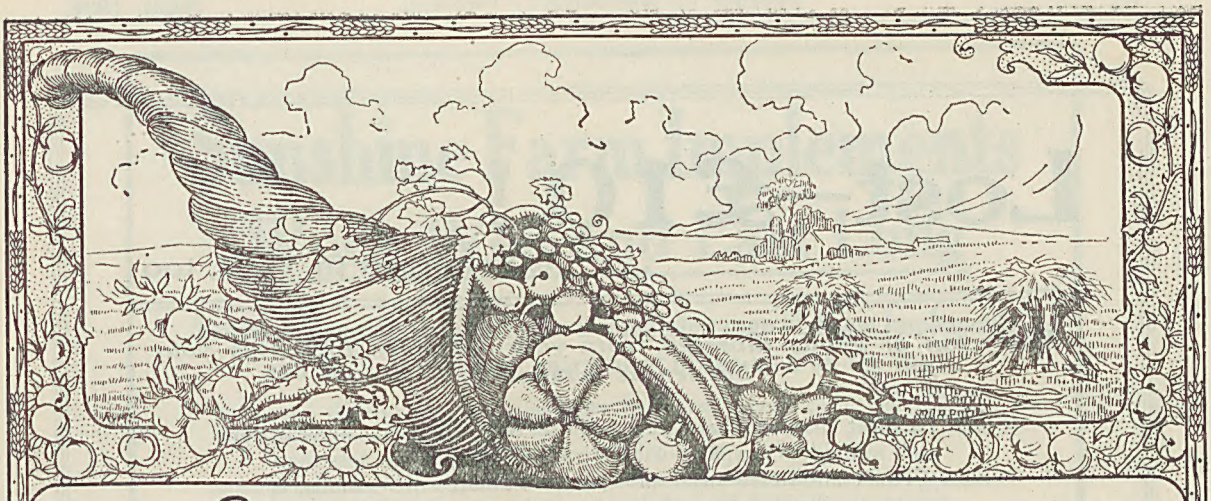

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Issued under the direction of the Hon. W. Slater, M.L.A., Minister of Agriculture.

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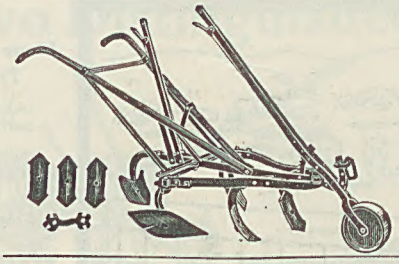

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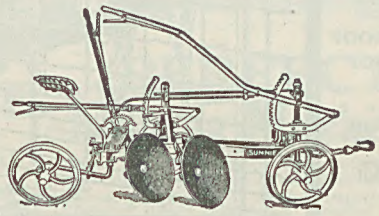

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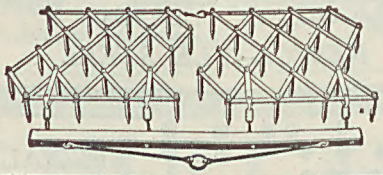

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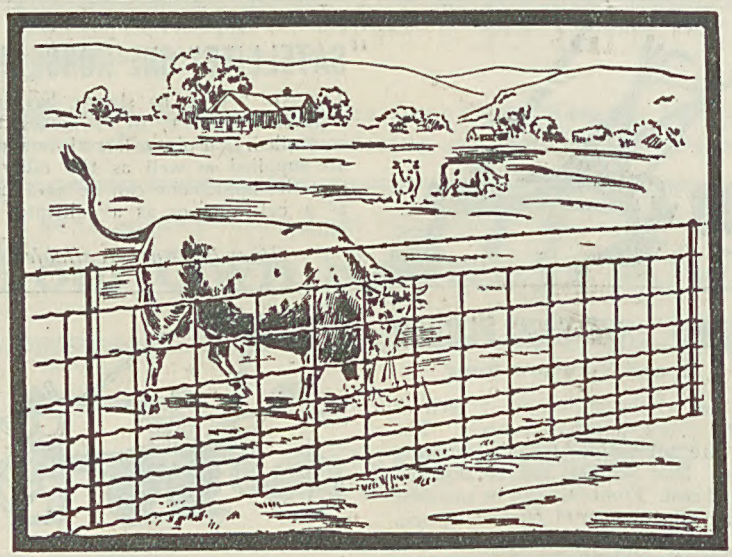

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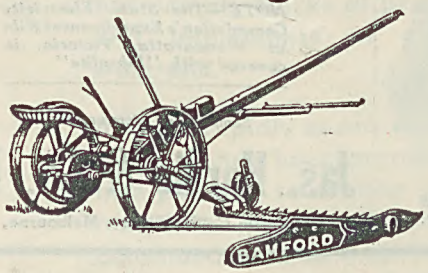

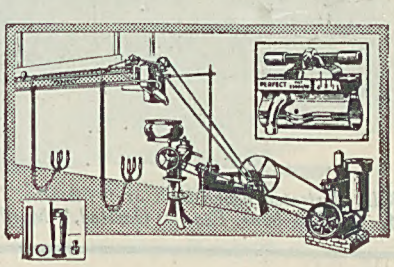

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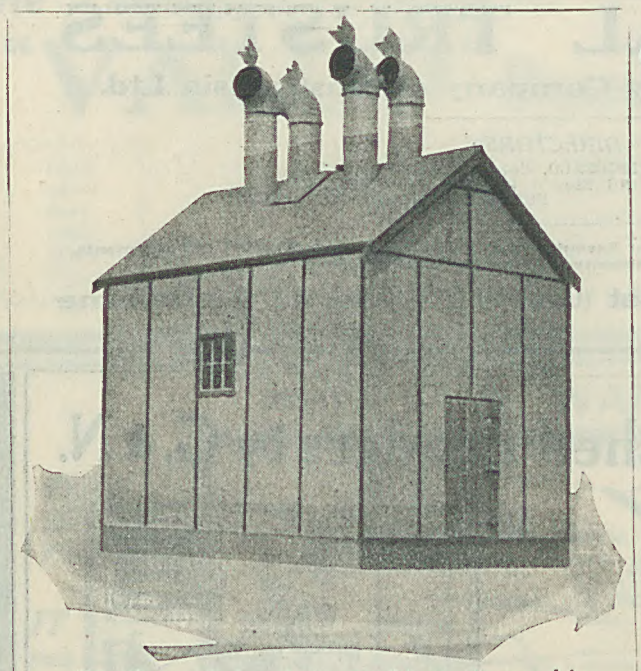

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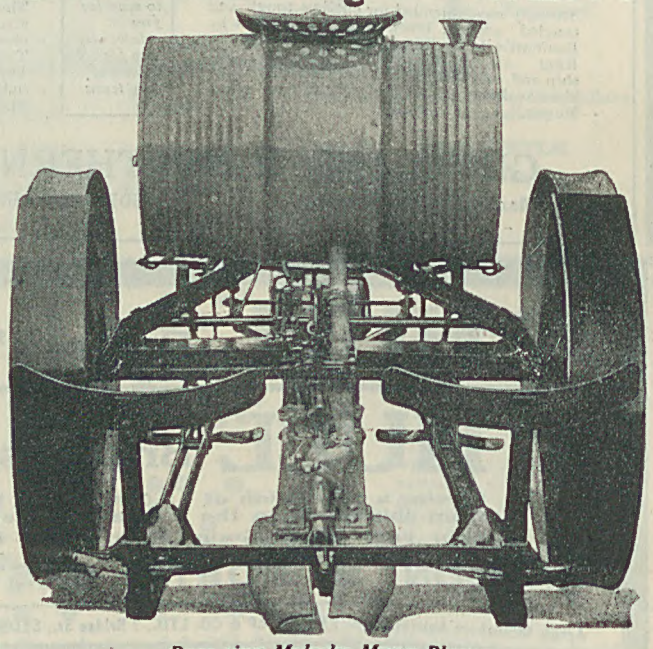

Rear view Malcolm Moore Planter

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Adhering to our established policy as manufacturers for 100 years, spare parts will be supplied for all machines and implements of every kind and description that we have sold in Australia just as long as there are any of these machines and implements in use.

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10 lb. of Choice Butter	17	6
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DURING 1930 the number of gifts ordered was 1,447.

ORDERS to forward any of these to any address should be accompanied by remittances and addressed to the DIRECTOR OF AGRICULTURE, Treasury Gardens, MELBOURNE, C.2.

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1-lb. Carton of Butter	1 Tin of Apricots
1-lb. ,, Sultanas	1 ,, Peaches
1-lb. ,, Raisins	1 ,, Pears
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"For feeding calves I mix a gallon tin of the meal with about 5 or 6 gallons of water, making similar to porridge, and add this to separated milk, giving ordinary calves about a gallon per feed. I have now used over two tons of Ricemeal, and find it a real good milk substitute. Calves do well and like it."

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The Company takes delivery at Works, kills, grades, freezes, and treats lambs, and ships them on behalf of owners.

Owners have the right to sell carcasses after killing in either of the following ways:—

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(b) locally to any exporter, or
(c) in London either through the Company's own agent or an agent nominated by the producer.

Skins will be disposed of as directed by owner, and if no instructions are received will be taken over by the Company at current market value.

Caul fat will be taken over by the Company at current market value.

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Full exchange at current rates operating between Australia and London will be payable when proceeds from London are remitted.

The minimum quantity that will be received for treatment on owner's account on behalf of any one consignor is one truck load.

For further particulars apply to the Managers of the Works at Ballarat or Bendigo, or

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NATIONAL MUSEUM OF VICTORIA

The Journal of the DEPARTMENT of AGRICULTURE of VICTORIA

Standard Herd Test

Report for the Year 1930-31

By A. J. Gill, Senior Herd Tester.

THE results of the Government Standard Herd Test for 1930-31 emphasize its value more strongly than ever. The standard test was inaugurated with the object of raising the standard of the pure-bred herds of the State. At the same time, it was realized that any improvement in the pure stock would be reflected ultimately in increased production in the grade herds that form the great bulk of the dairy cattle of Victoria. The test has been in operation for nineteen years, and the effects of those years of continuous testing and culling are to be seen in the excellent production records put up by so many of our pure-bred herds and also in the remarkable yields of grade herds which have been headed by pure-bred sires from Government tested and certificated dams. The money expended on this test in the past is now paying handsome dividends.

The yields recorded in the year under review have been particularly good and, on the whole, show substantial progress. True, the year has been a favorable one, but against this, it should be pointed out that the entries included several new, untested, and, consequently, unculled herds, the yields of which tend to lower the average.

One of the most surprising and pleasing features of the results was the splendid performance of the two-year-old heifers. In the junior two-year-old class the 602 entries gave an actual average yield for the nine months of the test of 271 lb. of butter-fat, while the 254 senior two-year-olds averaged 312 lb. I doubt if these records have been surpassed in any part of the world. In the early days of the test the standard required for a mature cow was only 250 lb.—a figure now surpassed by the average yield of the young stock which will constitute the foundation of our future herds. Such results are very gratifying, and indicate that complete confidence can be placed in the ability of Victorian stud stock-breeders. Undoubtedly we have capable men handling our pure-bred stock, and their success gives rise to the hope that, some day, Victoria may be regarded as the stud farm of the Southern Hemisphere. This hope is strengthened by the prominent part being played by our younger breeders, who already have shown themselves to be worthy successors to the pioneers who laid down the foundations of our present-day pure-bred herds.

The winning herd this year is that of Mr. N. Enders, one of the younger breeders, and one whose success illustrates the value of setting oneself a high standard. Mr. Enders entered the Standard Herd Test a little over four years ago, and commenced to build up a productive Jersey herd. He then announced his intention of bringing his herd to an average yield of 500 lb. butter-fat. That end was attained last year, when his herd was second on the order of merit list, with an average return of 551 lb. This year the herd occupies first place on the list with the splendid average of 573 lb. for twelve entries.

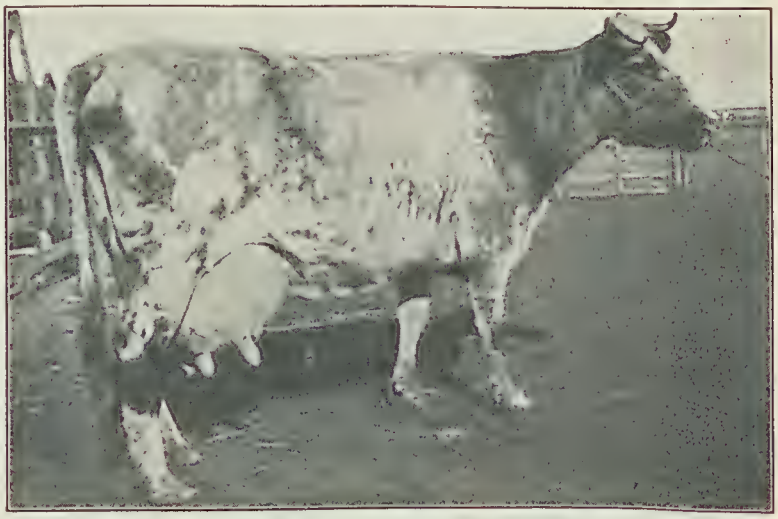
Mr. Enders set himself a high standard, and succeeded in reaching and even exceeding

Mr. N. Enders' Winning Herd.

it. His farm, "The Wattles," is an irrigation block at Stanhope. During most years the man dairying on an irrigation area has an advantage over the man on a dry block. This year, however, with the heavy rainfall in all parts of the State, and consequent luxurious growth of pastures, dairy-farmers in all districts had practically an equal opportunity. Five other herds gave average yields exceeding 500 lb., and of the 2,400 cows tested 90 passed the 500-lb. standard. These included sixteen that did better than 600 lb., and three that returned more than 700 lb. butter-fat in the 273 days of the test.

The champion cow this year is the twelve-year-old milking shorthorn Willow Park Cherry. Here again is seen an example of what can be achieved when a high standard is aimed at. Determined to build up a first class herd, her breeder, Mr. W. K. Atkinson, made up his mind to have the best sire obtainable. Accordingly, he visited the famous Darbalara stud—the home of the world's champion cow, Melba XV. There he was successful in securing a half brother to the sire of that famous cow, and Havelock of Darbalara was placed at the head of the Willow Park herd. He soon proved his worth, and not only were his daughters heavy producers, showing considerable increases in production over their dams, but his grand-daughters also are proving exceptionally good, and demonstrating how the factor for heavy production has been firmly stamped into the herd. Willow Park Cherry—a daughter of Havelock of Darbalara—produced in the nine months of test 727 lb. butter-fat, or double the amount of butter-fat given by her dam in the same period. Having won the championship of the Government Standard Herd Test on three separate occasions, she is the first cow in Victoria to have earned the title of "Grand Champion Cow." It is interesting to note that the annual championship has been won by a daughter of Cherry's—Fairy of Willow Park. Havelock of Darbalara is a striking example of the value of a good sire, and it would be difficult to determine what his actual monetary value to Mr. Atkinson has been.

The reserve champion cow, Ipomea of Swansea, is another illustration of the success of a young breeder. This Jersey cow, which



Mr. W. K. Atkinson's Milking Shorthorn Willow Park Cherry. Grand Champion Cow—Yield 727 lb.

is now a member of the herd of Mrs. F. P. Stephens, was bred by Mr. E. A. Dennis, of Swanpool.

New Standards.

Dairy cattle-breeders in Victoria have reached such a high standard that it has been thought advisable to make some slight increases in the minimum standards of certain classes. This is in keeping with the objective of the Department to maintain a gradually improving standard of efficiency. For the current year, 1931-32, the following minimum requirements for certification have been fixed by the Chief Veterinary Inspector, Mr. E. A. Kendall, B.V.Sc.:—

Class.	Minimum Standard.	Increase.
	lb. butter-fat.	lb. butter-fat.
Junior 2 years old	230	30
Senior 2 „ „	250	25
Junior 3 „ „	270	20
Senior 3 „ „	290	15
Junior 4 „ „	310	10
Senior 4 „ „	330	5
Mature Cows	350	—

The fact that this year a number of junior two-year-olds produced over 400 lb. indicates that a further rise in the standards will be necessary, and the mature cow may be asked before long to produce over 400 lb. before obtaining a certificate.

Mr. J. Plattfuss' Friesian, Westmere Oakwood Duchess, yield 653 lb. butter-fat.

Mr. N. H. Enders' Jersey, Myra of the Wattles, yield 633 lb. butter fat.

The leaders of the different classes this year are as follow:—

Class.	Cow.	Yield.
		lb. butter-fat.
Mature Cows ..	Willow Park Cherry ..	727·37
Senior 4 years old ..	Air Girlie of the Falls	606·99
Junior 4 „ „ ..	Aveley Norma 2nd ..	550·53
Senior 3 „ „ ..	Werribee Fancy Maderia 4th	498·55
Junior 3 „ „ ..	Preston Lady Capture 2nd	636·60
Senior 2 „ „ ..	Maiwand Stockings ..	502·89
Junior 2 „ „ ..	Airlee Duchess 2nd ..	505·36

Special Herd Testing Prizes.

The Champion Herd prize of £20, and the Reserve Champion Herd prize of £10 are awarded to the herds giving the greatest and second greatest average under the herd-testing regulations of the Department of Agriculture during the year ending 30th June. The number of cows (completing the test during the year in a herd) must not be less than ten, and the herd must average not less than 300 lb. of butter-fat.

Handicaps are allowed on the following scales:—In a herd of more than ten, each cow receives an allowance equivalent to ½ lb. of butter-fat for each cow in the herd. Allowances according to class are:—Junior two-year-old, 150 lb.; senior two-year-old, 125 lb. Junior three-year-old 100 lb.; senior three-year-old, 75 lb. Junior four-year-old, 50 lb.; senior four-year-old, 25 lb.

The three best cows in the winning herd are to be exhibited at the Royal Agricultural show of that year.

Mr. J. D. Read's Jersey, Narcissus of Springhurst, yield 640 lb. butter-fat.

The Champion Herd prize has been won by N. Ender's Jersey herd. The prize for Reserve Champion Herd goes to Mr. F. Bidgood's Jersey herd.

The Grand Champion prize of £100 awarded to the cow securing the position of Annual Champion for three years, not necessarily in succession, is won by Mr. W. K Atkinson's milking shorthorn, Willow Park Cherry.

The prize of £10 for the annual Champion Cow, under Herd Test regulations, is awarded to the cow yielding the greatest amount of butter-fat during a lactation period terminating within the year ending on the 30th of June, under the Department of Agriculture's Standard Herd Test regulations and calving again within fifteen months from previous calving date. If two lactations are completed within the year the last will be considered. The prize this year was won by Mr. W. K. Atkinson's milking shorthorn cow, Willow Park Cherry, 727-37 lb. of butter-fat.

The Annual Reserve Champion Cow was Mrs. F. Stephens' Jersey cow, Ipomea of Swansea, 724.51 of butter-fat.

Progress in Breeding.

In the present time of depression, the dairying industry promises to be one of the main props on which the country must lean. In similar crises, the industry has proved its worth, and the dairy farmer of to-day is in a much better position to meet difficulties than was the case 30 or 40 years ago. He has introduced scientific methods in the testing and culling of his herd, and these, combined with the introduction of pure-bred blood from heavy producing families, have made him a much more efficient unit.

Having built up heavy producing herds, the breeder is confronted with the task of holding that production, and gradually raising it. Sometimes a breeder does well for a while, and then slips back a little—a mistake in the choice of a sire has occurred, or some blemish not corrected has developed. With all classes of stock there is the necessity for continual replacement. Our herds are always changing—disease, accidents, and old age take their toll, and these losses, as well as the culled cows, have to be replaced from the young stock being bred.

Messrs. Smith and Sons' Friesian, Halecote Opera Girl, yield, 602 lb. butter fat.

1, C. Chitty's Jersey, Ewelme Girl, yield 629 lb.; 2, J. McDougall's Jersey, Peggy of Park View, yield 604 lb.; 3, Trevor Harvey's Jersey, Lady Marge 5th of Jerseyholm, yield 602 lb.; 4, I. Pagett's Friesian, St. Albans Ina Sylvia, yield 705 lb.; 5, T. J. Scott's Jersey, Preston Lady Capture 2nd, top junior three-year-old class, yield 657 lb.; 6, W. K. Atkinson's Milking Shorthorn, Willow Park Moss Rose, yield 612 lb.; 7, J. V. M. Wood's Jersey, Werribee Fancy Madeira, yield 647 lb.; 8, P. J. Ducat and Son's Jersey, Airlie Duchess 2nd, top junior two-year-old class, yield 505 lb. butter fat.

Mrs. F. Stephen's Jersey, Ipomea of Swansea, Reserve Champion Cow, yield 725 lb. butter fat.

On the skill and care shown in this selection and mating will the value and earning capacity of the herd depend.

In this work the breeder must have continually in his mind the standard production he intends to reach. The first step is to select and know the animals from which we are to breed. The first and most important consideration is the selection of the sire. Animals derive their characteristics from their parents usually in the proportion of 50 per cent. from each parent. But there are certain factors that dominate other factors, for example, polled sires mated with horned stock will always throw polled cattle, but if the crossbred progeny are bred together, both polled and horned calves will result. Over a large number of cases the proportion would be approximately three polled to one horned calf. Now in breeding for production, evidence seems to prove that in pure stock the factor for high production is dominant to low production, but, as in the example quoted above, we would have the factor for low production recurring in the subsequent offspring, though the immediate descendants may be high producers. This illustrates the value of studying closely the pedigree of an animal, and the test performances of the related families.

One should examine the sire carefully for traces of impure blood. The blood of the sire must be pure; he must conform to type and colour of the breed he represents; and he should be free from blemishes. He should be healthy—it is wise to have him tuberculin tested; he should have high producing blood on both sides, and, in addition to the records of his dam and grand dams, it would be wise to ascertain the production of his sisters and half-sisters.

Having selected our bull, we must turn our attention to the females from which we hope to breed. Naturally we would select our heaviest producing cows, especially those with the power to transmit their milking qualities. Usually in every herd there are one or two outstanding performers, and from the progeny of these, our herds eventually will be constituted. It is not uncommon to see large herds consisting of only one or two families. The next step is to see that these cows possess other

Mr. W. P. Rogen's Jersey, Aveley Norma 2nd, top of junior four-year-old class, yield 551 lb. butter fat.

Mr. R. M. Chirnside's Jersey, Air Girlie of the Falls, top senior four-year-old class, yield 607 lb. butter fat.

required characteristics. In pure-bred herds, the same attention would be paid to pureness of blood and ancestry as when choosing the sire, and any showing signs of grade or cross blood would be stood aside. Similarly any with serious blemishes would be rejected. Temper and disposition would be taken into consideration, as cows with uncertain tempers and a tendency to hold up their milk on the slightest provocation are not desirable. Then there is the udder with its shape, size, and attachment, and the length of teats to be considered. No breeder desires cows with pendulous udders or very short teats.

With sire and dam as near our requirements as possible we can hope to breed animals superior to their parents, for by mating animals of similar characteristics we intensify those characteristics and improve our stock. It is reasonable therefore to expect our crop of calves to be of a high standard, but now and again, there are disappointments, and results call for a further culling in our breeding stock and calves. It is much cheaper to cull the calves as far as possible when young than to rear them and then cull. So we examine our calves carefully—sometimes there are defects apparent that make it possible to reject a certain percentage immediately.

Calves that are heavy and coarse in the bone, rough or badly shaped are not desired. The calf should have a nice full, bright eye, wide forehead, face rather short, fine nose and wide muzzle—a head of this description usually indicates a vigorous animal. The head is the main factor in giving character. The way an animal carries its head, combined with the carriage of the body, gives style. Character and style are closely related, and both are important in the breeding of animals of any kind. The neck should be fine and of fair length, shoulders fine but with good heart room, even top line, and body of good length and deep at the flank. Bone should be fine and legs not too long, while a thin skin covered with a coat of soft fine hair is desirable. Heifer calves should have teats of good colour, and well placed. Any rudimentary teats should be removed at an early date, cutting them with a sharp knife well down, so that the skin will heal over smoothly. All calves should be definitely marked within a few days of birth so that no error will be made as

Department of Agriculture's Friesian, Victoria Lean Patch, yield 700 lb. butter fat.

to parentage. In the standard test it is proposed, in future, to insist that all calves be marked within 30 days of birth. Failure to do this may lead to disqualification of the herd.

Care of the Calf.

Having gone carefully through our calves, further culling will have to wait till they are tested for production. Care and feeding, however, will play a big part in the fitting of the calves for the work they will be called upon to perform later in life.

When a calf is born it is usual to allow it to obtain its first meal in the natural way. The new milk is very necessary for the young calf, as it is specially designed by nature for cleansing the bowels and to start the digestive organs functioning—also it contains certain antitoxins that afford the young calf a protection against disease. When, for any reason, new milk is unobtainable, it becomes necessary to find a substitute. The addition of the whites of eggs has the desired effect, and gives good results. The whites of five or six eggs are added to the milk the first day and gradually reduced at the rate of one egg per day. After the first two weeks skim milk can be introduced gradually and substituted for fresh milk. Some cows, though overfed when young, alter considerably in shape and produce well, but after seventeen years' experience with the Government test, I would say emphatically that overfeeding is not helpful to the dairy calf's correct development. We do not advise the starving of a young animal—keep them in a nice thrifty condition, but not over fat: do not make vealers of them. The amount of milk fed to the average calf of the lighter breeds at first would be 8 to 10 lb., and with the heavier breeds, 10 to 12 lb. This amount would be increased as the calf grew in weight, but would not be increased beyond 15 to 18 lb. except in the case of heavier calves. In changing from whole to skim milk, substitute approximately 1 lb. per day, taking from 7 to 10 days to make the change over. If possible, feed the milk at about 100 deg. F. Keep feeding vessels clean; dirty vessels cause scours, which sometimes result in the death of the calf. Overfeeding will cause indigestion and scours.

Do not keep your calves in dirty, dark sheds. They do much better and are healthier when allowed plenty of exercise in the fresh air on good clean pasture. Again, do not keep calves in the same paddock as pigs, or in a paddock where the drainage from a pig paddock will run over the pasture. Organisms from pig manure cause severe scours in young calves, and many valuable animals have been lost through being grazed with pigs. Skim milk is lacking in carbohydrates, and in order to correct this shortage it is not necessary to use foods very rich in protein. The skim milk provides sufficient of this constituent. Grains such as oats, maize and barley, which can be grown on the farm, will do quite well and prove the most economical way of supplying the deficiency. The grain should be crushed and a little bran added. If it becomes necessary to cut the milk supply down and more protein is required, a little linseed meal may be added—cottonseed meal is not advised for young calves. In come cases the milk goes to a cheese factory, and calves have to be reared on whey. This is lacking in protein, and so the addition of protein rich food would be necessary. It is, I think, always advisable to pasteurize the whey before feeding. Add to it a little linseed meal or prepared calf's food. The grain mixture would then include bran, linseed meal, and crushed oats. The calves will commence to eat a little grain at two weeks or between one and two weeks; at six weeks they will be eating ½ lb. per day; at two months, 1 lb; and, at three months, 2 lb. Beyond that the allowance need not be increased.

When skim milk is being fed, the concentrates may consist of maize, oats, and barley mixed, or any one variety to which a little bran is added. When feeding grain, a little salt should always be mixed with it. It is also an advantage to allow the calves access to hay. Some breeders make it a practice to provide lucerne or leguminous hay. However, as skim milk always contains a high percentage of protein, and young grass also is rich in protein, leguminous hay, being also a narrow ration, sometimes will cause a certain amount of scouring. For that reason, when skim milk and young grass are available, I would prefer a mixed hay or meadow hay, which should be well cured and free from mould. Roughage of this kind is beneficial and helps to develop a roomy digestive tract so much desired in the dairy cow. A point often neglected, but very necessary, is a supply of good clean drinking water.

Another important feature in the rearing of calves is the provision of mineral matter. Fast growing calves, though receiving skim milk,

sometimes suffer from "cripples." This disappears when lime water is added to the milk. Young grasses and clovers make excellent pasture for young stock, and the top-dressing of the pasture adds to its feeding value. Where possible, water to which lime has been added should be made available in wooden or concrete troughs for all young stock. Dry salt also should be available so that the animal may take what it requires. The weaning age varies from three to five months, the latter being the age most generally favoured. If circumstances render early weaning necessary, every endeavour should be made to provide succulent pasture as well as concentrates.

Calves of the two sexes should be separated at between four and five months old. The heifers should be bred to calve at two years—the age at which they appear to give the best results. There is a good deal of difference in ideas as to whether calves from heifers are reliable or not, and many breeders prefer those from mature cows; but, providing a heifer is fully developed and a good producer, I would as soon have her calf as that from a mature cow. If the production promised to be equal, I think I would choose the first calf; some of our outstanding champions have been heifers' first calves.

In grade herds, bull calves usually are sold as veal or kept to be sold off later as fat steers. There is a growing demand for young or "baby" beef, and the supplying of this demand may become in a few years a valuable side line on dairy farms. Some farmers have been experimenting with this object in view, and I have seen some nice steers going off at eighteen months. These were skim milk calves, and were fed silage, grain, and hay in addition to pasture. Young growing animals make much larger gains for each 100 lb. of food consumed than do those which are more mature. When grain is cheap it is certainly more profitable to market it on the hoof, and the plentiful supply of grain available this year makes it an opportune time to experiment in this line.

With pure-bred stock the majority of the young bulls are reared for sale, but breeders are strongly advised not to rear for sale bulls they would not consider good enough to use in their own herds. We have breeders that set a high standard, and bulls not conforming to that standard do not go on to the market. There are others who keep inferior animals to meet the demand for a cheap bull. An inferior bull is never a cheap one. Even if he cost nothing to buy, he will mean loss and further expense to the user, and he will be a bad advertisement to the breeder.

The list of leading herds in order of merit is shown on the next page, and detailed records of each herd on pages 444 *to* 468.

Department of Agriculture's Friesian, Victoria Freemartin, yield 660 lb. butter fat.

Herds in Order of Merit

Owner.	Breed.	Junior 2-year-old.		Senior 2-year-old.		Junior 3-year-old.		Senior 3-year-old.		Junior 4-year-old.		Senior 4-year-old.		Mature.		Total Herd.	Average without allowances.	Average with allowances.
		No.	Average.	No.	Average.	No.	Average.	No.	Average.	No.	Average.	No.	Average.	No.	Average.	No.		
1. N. H. Enders	Jersey	2	412·11	4	441·02	..	..	1	475·71	1	506·16	..	..	4	577·54	12	490·03	573·11
2. F. Bidgood	,,	4	381·39	..	..	5	471·96	..	..	2	445·72	2	435·88	4	458·48	17	440·14	523·20
3. W. P. Rogen	,,	2	368·08	2	377·93	1	441·28	1	486·95	3	481·90	2	474·38	1	453·06	12	438·98	522·06
4. J. V. M. Wood	,,	10	339·58	1	427·68	6	363·54	2	423·71	..	..	1	443·96	5	540·03	25	399·85	508·35
5. Department of Agriculture	Friesian	1	380·79	4	334·76	1	377·36	..	..	..	..	2	392·67	5	546·62	13	431·97	500·01
6. J. D. Read	Jersey	10	289·51	4	395·91	..	..	1	279·86	2	420·68	1	552·95	7	539·18	25	397·22	497·72
7. D. Cameron and Sons	,,	1	449·92	4	393·58	..	..	..	..	..	..	1	451·22	4	451·29	10	428·06	495·56
8. R. M. Chirnside	,,	2	387·64	1	358·21	3	350·83	2	421·45	2	435·67	1	606·99	4	443·48	15	418·74	492·91
9. T. Mesley	,,	6	335·36	..	..	3	412·32	..	..	..	..	..	..	1	477·17	10	372·63	492·63
10. J. A. Huffer	,,	5	321·31	4	371·11	1	371·31	2	425·62	2	457·81	1	414·17	6	459·81	21	400·11	487·99
11. R. J. M. Dobson	,,	4	339·69	1	465·90	1	326·94	1	403·25	1	434·62	..	..	3	445·23	11	393·20	485·06
12. F. Trevaskis	,,	3	325·72	3	395·37	2	361·44	3	423·18	1	284·69	..	..	4	462·03	16	393·03	482·28
13. K. McGarvie	,,	22	305·81	17	343·68	..	..	..	..	..	..	..	..	1	383·96	40	323·86	479·48
14. E. M. Middleton	,,	7	308·30	4	345·56	..	..	1	309·63	..	..	1	334·88	2	359·98	14	350·34	475·20
15. G. H. Belfield	,,	2	280·17	..	..	3	398·16	1	448·27	2	440·96	2	437·87	..	..	10	396·08	471·08
16. T. R. Findlay	,,	5	332·18	4	345·70	..	..	..	..	..	..	1	430·63	1	349·89	11	347·65	469·06
17. W. K. Atkinson	Milking Shorthorn	2	329·40	6	334·97	2	308·38	7	398·85	5	366·65	2	409·57	15	446·61	39	395·61	468·32
18. T. M. Noble and Son	Jersey	4	334·64	1	355·29	..	..	1	410·33	..	..	1	525·27	3	400·59	10	383·12	465·62
19. W. H. Hurrey	,,	2	286·86	4	426·28	..	..	..	..	..	..	2	461·30	7	402·57	15	401·30	465·46
20. Gordon Lyon	,,	6	314·14	2	367·04	3	390·53	1	427·69	..	..	3	422·90	8	414·31	23	382·67	463·73
21. Mrs. L. Lowing	,,	3	372·92	2	371·35	1	372·05	2	417·21	..	..	2	404·05	8	411·77	18	398·34	462·90
22. E. J. Vagg	,,	2	278·18	1	312·61	1	298·65	1	495·51	..	..	..	..	7	458·04	12	405·79	461·79
23. Ducat and Sons	,,	3	371·48	1	308·27	1	344·30	1	313·21	..	..	1	451·39	5	420·25	12	386·07	456·66
24. G. Esler	,,	1	348·67	1	502·89	2	385·64	1	456·89	1	329·24	1	328·67	3	400·77	10	394·00	456·50
25. J. Clyne	,,	4	288·90	6	295·57	7	353·25	5	394·84	5	368·06	..	..	5	430·78	32	353·31	454·90
26. C. Chitty	,,	9	316·59	4	340·87	2	314·49	..	..	..	..	2	318·67	3	428·92	20	338·29	453·29
27. A. A. Broad	,,	6	274·03	..	..	2	333·04	1	458·95	1	315·70	1	500·06	2	474·45	13	348·76	451·42
28. H. Cowling	,,	1	340·10	1	328·55	1	375·00	..	..	3	393·99	..	..	4	437·86	10	397·70	450·20
29. J. Plattfuss	Friesian	2	257·78	2	219·43	7	327·82	2	358·77	4	368·27	1	517·95	10	447·27	28	372·51	444·55
30. T. Harvey	Jersey	3	332·77	1	300·09	1	400·30	..	..	2	367·79	..	..	6	413·16	13	377·94	444·06
31. Department of Agriculture	Red Poll	11	246·30	11	288·78	..	..	4	327·88	2	380·67	1	416·26	12	411·09	41	338·10	442·74
32. G. T. Young	Jersey	3	324·68	..	..	1	383·15	1	459·81	..	..	1	347·16	4	399·37	10	376·16	441·16
33. G. A. McNabb and Son	,,	9	303·44	1	328·66	1	340·73	..	..	2	404·27	3	373·63	6	395·97	22	350·25	440·80
34. J. E. Handbury and Sons	,,	9	268·71	2	334·30	4	306·90	2	340·56	1	449·88	2	456·41	3	405·91	23	329·40	438·72
35. A. J. Mapleson	,,	5	282·06	1	279·76	2	336·98	..	..	..	..	..	..	8	429·27	16	362·38	437·57
36. L. W. R. Colenso	,,	3	288·76	..	..	1	478·67	1	332·37	..	..	..	..	5	412·59	10	374·03	436·53
37. W. H. Atherton	,,	4	247·29	3	281·37	..	..	..	..	3	405·26	2	467·12	6	422·34	18	362·07	436·35
38. A. Cox	,,	12	255·02	..	..	1	324·42	3	369·83	3	386·84	1	463·46	11	418·04	31	345·70	435·39
39. D. M. Ryan and Sons	Illawarra	7	302·91	1	235·29	1	342·66	..	..	..	..	1	323·89	2	410·06	12	320·27	434·60
40. Foster Bros.	Jersey	6	252·72	1	414·22	3	352·56	1	421·80	2	297·11	..	..	6	408·83	19	339·85	428·30
41. J. McDougal	,,	6	272·82	..	..	5	288·27	..	..	1	264·60	1	433·94	5	458·28	18	337·12	428·07
42. A. W. Gorman	Ayrshire	1	259·21	1	268·44	3	348·86	..	..	1	334·70	..	..	5	422·32	11	365·50	427·82
43. R. G. Gay	Jersey	4	243·25	..	..	1	261·98	1	422·96	1	354·96	1	419·76	2	483·80	10	340·02	425·02
44. L. R. Archibald	,,	6	277·67	1	335·47	2	322·27	1	444·21	1	392·92	1	303·12	2	334·44	14	318·22	423·44
45. Mrs. E. M. Lennie	,,	2	295·89	3	298·33	..	..	1	429·48	..	..	2	425·31	5	368·49	13	354·56	422·60
46. T. Knowles	Ayrshire	11	274·95	1	363·79	4	290·11	1	331·05	..	..	1	472·16	6	368·46	24	315·11	421·90
47. W. W. Macaulcy	Jersey	8	249·18	1	367·50	..	..	..	..	..	..	..	..	2	422·80	11	291·50	417·46
48. A. E. Ellis	,,	2	279·13	2	280·80	1	339·30	2	348·95	..	..	3	425·35	6	380·34	16	357·19	416·76
49. N. B. Alston	,,	5	276·08	1	205·74	1	375·30	2	319·78	1	412·41	..	..	4	377·12	14	322·99	413·92
50. W. Woodmason	,,	2	280·11	1	316·35	..	..	..	..	1	380·18	..	..	8	395·28	12	368·25	413·83
51. Cockbill Bros., Bacchus Marsh	Ayrshire	4	283·43	..	..	2	285·06	..	..	2	340·65	1	347·13	6	405·76	15	344·45	413·62
52. Dookie College	,,	1	335·13	1	362·39	2	321·31	2	412·38	2	305·56	1	272·76	1	315·71	10	336·45	411·45
53. H. Watson	Jersey	1	232·99	..	..	..	..	2	332·15	1	265·49	..	..	12	411·22	16	381·09	410·96
54. B. R. O'Meara	Ayrshire	5	278·66	1	364·51	..	..	..	..	..	..	..	..	5	353·20	11	320·34	405·39
55. J. Powell	Jersey	3	279·47	2	278·01	3	316·08	1	320·69	..	..	1	407·29	5	353·17	15	322·43	403·26
56. J. Charlton	,,	2	287·05	1	214·06	1	334·04	2	423·26	1	274·57	..	..	3	370·12	10	335·36	400·36

Tobacco Growing

II.—Planting the Crop

By W. J. B. McDonald, B.Agr.Sc., Assistant Inspector of Agriculture; and G. E. Coghlan, Tobacco Field Officer.

The first Article of this Series which appeared in the August issue of Journal dealt with the soil and Climatic conditions most suitable for Tobacco growing and the preparation of seed beds.

Care of the Seedlings.

WITH the advent of warm weather, the appearance of the Pea-mite on tobacco seed-beds can be expected. At the first signs of attack, immediate steps should be taken to protect the bed. The Departmental Entomologist advises the application of nictar as a control. If this powder be dusted over the beds at the rate of 5 to 6 lb. per acre, it will destroy the mites already present, and act as a deterrent for a period of from eight to ten days, after which time the treatment must be repeated should further invasion occur. In cases of severe infestation, the rate of dusting can be increased without detriment to the seedlings.

Seedlings ready for Transplanting.

An alternative treatment consists of spraying the beds with one part of nicotine sulphate dissolved in 80 parts of water. The spray should be as fine as possible. The application must be repeated at intervals of three to four days until the pest disappears. Capeweed, which furnishes a breeding ground for the mites, should be destroyed on all areas adjacent to the seed-bed. The first control method described is the more economical.

Should a backward condition of the seedlings during the early part of October indicate that they will not have reached the requisite size for transplanting at the desired date, growth can be hastened by the judicious application of liquid fertilizers. In the use of these stimulants, care must be taken to ensure that the dose is not sufficiently concentrated to burn the foliage, nor to produce a too rapid growth of soft tissue. A solution of 1½ lb. of sodium nitrate or ammonium sulphate in 20 gallons of water may be used to cover 50 square yards of seed-bed. Such an application should be followed immediately by a normal watering.

The chances of producing healthy plants are enhanced by distributing the seed-beds over a number of sites, and sowing them at intervals of a week or ten days.

Preparing the Soil.

Thorough preparation of the soil is essential to the most successful establishment of a field of tobacco. All the succeeding operations necessary to the care of the growing crop are simplified by efficient preparatory soil treatment. The amount of weeding is reduced, transplanting operations are greatly facilitated, and the maximum storage of moisture and elaboration of plant foods within the soil are obtained.

Healthy and Diseased Seedlings.

Over the bulk of Victorian tobacco fields the advantages derived from the construction of a well-prepared fallow are not generally appreciated. The dangerous practice of allowing the stalks of the preceding crop to persist over the winter months when they act as a host for diseases and pests is all too common in both the old and newer tobacco-growing areas. All such debris should be removed and destroyed by burning. In the opinion of the writers this would be the greatest and most effective step toward the ultimate control of the Blue Mould disease.

While still engaged in grading and marketing his preceding crop, the tobacco-grower must divert his attention to the preparation of the soil for the coming year's plantation. Early in autumn, the land should be ploughed to a depth, which according to experienced growers varies around 8 inches, and left in the rough. During the ensuing months, the action of the sun and weather tends to sweeten the disturbed soil. About the end of July or the beginning of August, the land must be worked again to a depth of 4 to 5 inches. During spring cultivation should be sufficient to keep weed growth in check, and maintain a fine mellow mulch free from clods and from 4 to 5 inches deep.

Just prior to transplanting operations, it may be necessary to give another shallow ploughing which, on harrowing and rolling, should leave a fine smooth surface on which to work. Any cloddiness must be eliminated by thorough pulverizing and rolling, as clods are a continual source of annoyance when setting the seedlings in the field.

Old roots or crop residues cause further difficulties in machine transplanting by catching on the point of the plough opening the furrow and pushing a mass of earth along in front of it. This necessitates a stoppage of the machine while the obstruction is removed, which in a day's operations may involve a considerable waste of time. In extreme cases, this delay may mean that all of the seedlings pulled cannot be set in the one day, with the result that a certain wastage of plants occurs.

Even with hand planting rubbish causes delay in setting the seedling, or irregular spacing in the field. Any plant carelessly set owing to the lack of sufficient finely-divided soil to pack around the roots finds difficulty in establishing itself. Should the proportion of such settings be appreciable, a poor strike is likely to result, and those seedlings that do overcome the initial difficulties presented by faulty planting, never make the luxuriant growth typical of properly set plants.

Provided similar care be applied to both methods of transplanting, equally satisfactory strikes may be obtained from machine and hand setting. The advantage accruing to either method is solely concerned with its economy.

Normally the planting period should be spread over three or four weeks, and during this time, three men—the necessary team for the most economical working of a transplanter—could hand plant with ease up to 10 acres of crop. It is considered that for areas below this figure the purchase of a machine, possibly, is not warranted. Above this acreage, however, a mechanical planter should prove a profitable investment.

Pulling Seedlings and Transplanting.

In none of the major operations connected with the growth of tobacco can carelessness be tolerated, and no one of these calls for greater

delicacy of treatment than do the pulling and handling of the seedlings. It is an undeniable fact that many of the omissions and malformations occurring in the average tobacco field can be attributed to injuries obtained at this critical phase of the plant's history.

The determination of the optimum stage for pulling adds greatly to the chance of successful transplanting. Should the plant be too large, the shock administered by transferring to new surroundings is intensified. On the other hand, exceedingly small plants cannot be handled readily by the operator.

Seedlings usually are pulled when the first four leaves produced have reached a length of from 4 to 5 inches. In this condition, the cotyledon leaves—the first two produced—are showing signs of death.

Only healthy plants will develop properly after transplanting. A short, stocky, turgid plant with the base of the leaves commencing right at soil level is the type most desired. The faulty seedling most commonly found is one possessing a shank between the base of the leaves and the point from which the roots originate. When set in the field, this shank is necessarily covered with earth. Under this condition, the original root fails to grow normally, and a secondary system develops from the base of the primary leaves. The growth of this seedling is never comparable with that of the short stocky type. Plants showing any abnormality or which are suspected of harbouring the larvæ (grubs) of any insect pest must be discarded.

Before pulling, the beds should be thoroughly watered to soften the soil, and thus increase the ease with which the roots can be withdrawn. The soil round each individual plant is loosened by the insertion of an old table fork or similar tool, taking care not to approach the base of the plant closely enough to injure the root system. The outer leaves are gathered between the thumb and forefinger, and will be found to close naturally over the heart. A gentle pull removes the seedling, care being taken that the pressure applied is not sufficient to bruise the heart.

As the seedlings are extracted, they are counted and neatly stacked so that the roots lie in the one direction. Abnormally long tap roots should be pruned back to 2 to 3 inches.

A kerosene case is the usual receptacle in which the plants are stacked. This accommodates two rows of seedlings with the roots directed towards the centre of the box. Care must be taken to pack firmly but not too tightly, and to keep in a cool condition. About 1,500 plants fill one case.

After removing the selected plants, those remaining should be well watered, so that the disturbed earth will be again packed around their roots. A seed bed which has been picked over in hot weather may, with advantage, be covered until the remaining plants are again firmly established.

Just before setting out in the field, the leaves of the young plants may be dipped in a milky white solution of lead arsenate—1 lb. in 30 gallons of water giving a suitable strength. This will protect the plant from cutworm and

Young Crop showing many "Misses."

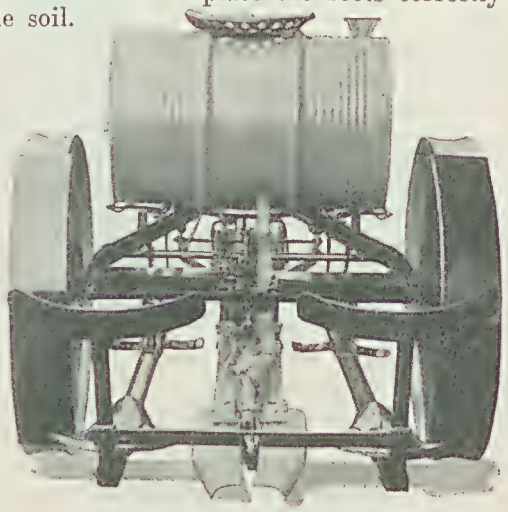
caterpillar attacks immediately after transplanting. Care must be taken to avoid immersing any portion of the roots, or of allowing the solution to drip on to them.

The time at which transplanting occurs varies according to the district and the nature of the season. This operation is not restricted to any narrow time limit, crops planted out as late as January having been known to mature a satisfactory yield. November, however, is considered to be the best time for most districts, although in the Pomonal area December is generally regarded as a more favorable month. With very late planting there is a danger that the crop may not mature sufficiently early to escape the incidence of the first frosts, and even should this danger be avoided, normal weather conditions at maturity would be reaching a stage which detracts from the ease with which curing operations can be effected.

As far as possible, transplanting should be confined to dull or showery weather. If planting on bright sunny days, operations are better delayed until towards evening, when the sun's power is somewhat diminished and the danger of scorching the heart consequently is lessened.

Hand Planting.

If the soil is at all inclined to be dry, every plant set must be supplied with from ½ to 1 pint of water. For most rapid progress, at least two men should work in conjunction. The first member of the pair follows a previously defined line, and wherever a plant is to be set, turns the earth to a depth of 4-5 inches, patting the disturbed soil firmly back into place. Unless planting in very loose soil, he inserts the blade of the shovel vertically, and by means of a slight to-and-fro motion leaves a hole in which the second member of the pair inserts the root of the seedling which the first man has left at the set. When planting, care must be taken to see that the outside leaves are so held, that on completion of the operation, the soil will retain them in a position forming a protection for the heart. The requisite amount of water is poured into the hole in such a fashion that it will tend to carry the roots down with it. No water should be spilt on the surface of the soil, as caking is likely to result. It is most essential that the earth is firmly compacted round the roots and base of the seedling. On completion of planting, the outside leaves should be held upright and together by the compacted soil. If planted too deeply, a certain amount of local scalding or sweating is liable to result, and perhaps cause the death of the seedling. If the roots are left in a twisted or knotted condition, stunted growth is likely to occur. Care must be taken to place the roots correctly in the soil.



An Australian Transplanter.

If when or after planting in sand, hot weather occurs, some shade should be given the young plant. This may be provided by paper, bracken fern, or other convenient material. When paper is used, it should not be left lying flat on the seedling, but arranged so as to form a raised cap over the set. Any covering provided must be removed within seven to ten days of planting out.

In transplanting operations, tools best suiting the convenience of the operator should be selected, e.g., a trowel or dibble in preference to a shovel.

Machine Planting.

Where machine planting is practised, a crew of three is necessary for most effective work. If using other than a new planter, a thorough overhaul of the machine, paying special attention to the effective operation of the water delivery, should be undertaken before the machine enters the field. Inexperienced users may acquire some familiarity with the method and rate of working by arranging a trial run with dummy plants. The slowest and steadiest horses available should draw the machine.

Adequate water supplies should be arranged at convenient points, as the normal container on the planter holds only sufficient liquid to supply about 400 plants. Sufficient plants to

ensure the sowing of a complete round should be carried on each trip.

In setting the seedling in the furrow, care must be taken to place it at the point at which the water delivered finally lodges. Some adjustment of the pressure plates, to ensure adequate compaction of the soil round the young plants, may be necessary.

The more care expended in planting, the more successful will the strike be. Misses in the row must be replaced later, and the better the original "take," less labour and expense will be involved in the second planting. Within ten days of planting, all seedlings which fail to show a satisfactory recovery should be replaced by others.

Spacing of Plants.

The distance apart at which plants should be set depends on soil type and the variety planted. It is generally believed that closer planting within the row tends towards finer leaf texture, and as this should be the aim of all growers, some modification of past practices is perhaps desirable. Unless extraordinary care is taken in planting out, cross cultivation is not practicable, even when planting on the old scheme of 3 feet x 3 feet. For this reason, except in very rare cases, no sacrifice of ease of inter-cultivation is made by planting closer within the row. A suitable spacing is 2 ft. 6 in. to 2 feet within the row, and 3 ft. 6 in. between the rows. The wider distance between the rows permits the use of horse-drawn cultivators for a longer period of time than is possible with a distance of 3 feet between the rows.

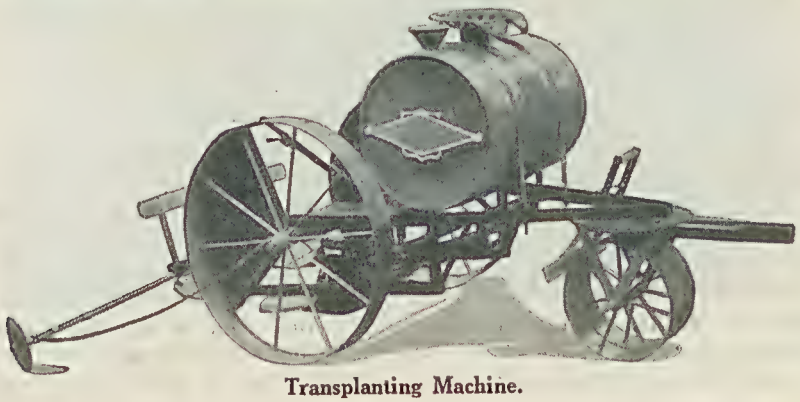
Transporting Seedlings.

Those growers who find it necessary to obtain their seedlings from a distance are advised to inspect them carefully on arrival to make sure that they have not suffered irreparable damage in transit, unpack immediately, and examine for signs of blue mould or sweating. Should they be free from these troubles, and not unduly wilted through being delayed in transit, they should be placed under shady conditions, either standing upright in shallow trenches, or laid flat on the ground. A light watering will help to freshen the plants. Several hours should intervene between the time of unpacking and transplanting. Whenever practicable, seedlings should be planted out on the same day as pulled. Twenty-four hours is regarded as the maximum period over which they can be held with perfect safety, although some growers have obtained satisfactory stands from seedlings which have been held for longer than this.

Fertilizing.

The sensitiveness of the tobacco plant intensifies the importance of correct fertilization. Probably no other crop is so readily altered in character by artificial manuring. Certain fertilizers enhance desirable characteristics, while others exaggerate undesirable qualities. The problem, therefore, is to determine the manures which will foster the development of desirable features, while correcting any inherent fault due to the lack of some necessary element in the soil.

Fertilizing usually results in increased production, but in certain instances this is obtained at the expense of quality. Although nitrogen is one of the foods essential to plant life, experience shows that the bulk of the lands in Victoria at present growing tobacco contain adequate amounts of this plant food. However, with the wider use of light sandy soils as tobacco producing areas, the use of nitrogenous fertilizers will become more important.



Transplanting Machine.

Under continued cropping the available nitrates in these soils become depleted to such an extent that the application of nitrogenous fertilizers is necessary.

Excessive dressings of nitrogenous manures, however, tend toward the growth of a thick gummy, late maturing leaf with poorer burning and smoking qualities. Curing difficulties are also increased.

Nitrogen may be applied either in an organic or inorganic form. It is generally conceded that nitrogen derived from organic sources produces the better quality leaf, but for the sake of economy, it may be necessary to apply it wholly or in part by the use of inorganic fertilizers.

The term organic as applied to nitrogen denotes that it has been derived from the bacterial destruction of some animal or vegetable product, while inorganic signifies that it has been applied in the form of a mineral salt such as sodium nitrate. The following fertilizers are procurable as a source of nitrogen supply:—

Registered Nitrogenous Fertilizers.

—	Per cent. Nitrogen.	Price per Ton.
		£ s. d.
Inorganic.		
Nitrate of Soda	15·5	15 0 0
Nitrates of Lime and Ammonia	15·5	14 10 0
Nitrate of Ammonia with Lime (Calnitro)	20·5	15 10 0
Sulphate of Ammonia	20·6	12 16 0 to 15 5 0
Organic.		
Urea	46·0	37 10 0
Dried Blood	11·75	12 0 0
Blood Manure	7·50 to 8·50	9 0 0 to 9 15 0
Castor Meal	5·0	5 15 0
Ground Wool Waste	5·0	5 0 0

Over the greater part of Victoria, phosphatic fertilizers play an essential part in successful crop production. While American experience suggests that excess of phosphorus may slightly affect the fire holding capacity of the leaf, Victorian growers need not fear any serious loss of quality on that score. Although the tobacco plant is by no means a gross feeder of phosphates, it responds readily to relatively large dressings, both the quantity and quality of the crop being improved. Maturity of the leaf is more rapid, and uniform texture, colour, and burning quality are improved, while curing is definitely facilitated. On old tobacco fields, dressings of from 5 to 8 cwt. per acre could be applied with profit. Virgin land does not require the same degree of fertilizing as land that has been cropped for some years.

Potassic fertilizers have not exerted much influence on Victorian crop production, the bulk of our soils being well supplied with potash. Its important bearing on successful tobacco culture invariably is stressed in overseas journals dealing with the subject. We cannot disregard, therefore, its potential importance in relation to local production. As yet we have by no means exploited all those avenues which will eventually lead to greater refinement in production. Potassic fertilizers may in time prove to be one of these avenues. Adequate supplies of potash exert a marked effect on the general well-being of the plant, and on the degree of resistance it offers to diseases. Fertilizing with potash is accepted universally as the most effective method of improving the burning quality of the leaf. In general, sulphate and carbonate of potash are regarded as the most suitable forms in which to apply it. If applied as muriate of potash, the amount of chlorine present may have an adverse effect on the burning and smoking quality of the leaf.

The tobacco plant grows best in a somewhat acid soil. Except where acidity is very pronounced, liming is liable to do more harm than good. Under neutral or slightly alkaline soil conditions, the plant becomes subject to various root rots, which, up to date, have not caused serious trouble in this State.

The presence of large amounts of active lime compounds is considered to interfere with the solubility of the potash, and its absorption by the plant. Over the bulk of the State, the application of lime cannot be recommended. In very acid soils, however, beneficial results may follow its application in relatively small amounts. It is suggested that an annual dressing of 3 to 4 cwt. per acre (until such time as the degree of acidity reaches a condition normal to the tobacco plant) will give better results than an attempt to neutralize the excess acidity by one heavy application.

The best quality leaf can be produced only in light, sandy soils. Such soils rapidly be-

come depleted of available plant foods; consequently when the production of more than one crop is contemplated, these foods must be restored by the grower.

The following dressings are recommended for tobacco land which has been cropped previously:—

For Light sandy Soils.

Nitrogenous Manure	150–200 lb. per acre Dried Blood or 100–150 lb. per acre of Ammonium Sulphate or Sodium Nitrate
Phosphates	6–7 cwt. per acre of 22% Super.

For heavier Soils.

Nitrogenous Manure	Nil.
Phosphates	7–8 cwt. per acre of 22% Super.

It is suggested that individual farmers treat a small area of their crop with 100 to 150 lb. per acre of potassium sulphate. They will then be able to determine whether, under their particular conditions, any advantage would be gained from the use of potassic manures.

Fertilizers should be applied to the soil just before the seedlings are transplanted. In Victoria, where practically all fields are planted on the flat, as distinct from planting in ridges, the manure can be applied most evenly and economically through the manure runs of an ordinary grain drill or other mechanical spreader. Failing the possession of an implement of this type, it can be hand broadcast satisfactorily. The manure should be worked into the soil to a depth of 2 inches.

If planting in ridges, the fertilizer is incorporated with the soil in the ridge by first opening a furrow, distributing the material along it, and then ploughing the soil back to form a ridge over the site of the original furrow.

Seasonal Notes.

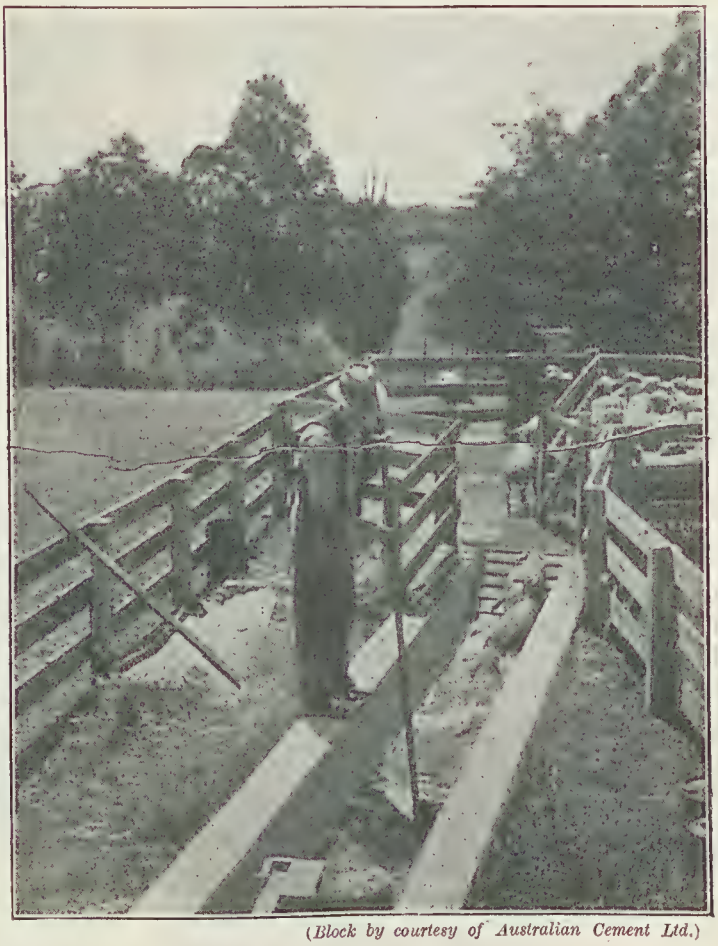
Those growers who have not yet prepared sufficient curing sticks on which to hang next year's crop, and contemplate using green timber for the purpose, are advised to cut and stack them as soon as possible, so that any odours connected with the wood will have some opportunity of disappearing before the sticks are placed in the barn. Sticks should be 4 ft. 6 in. in length, and from 1 inch to 1½ inch in diameter.

Where it is intended to erect a log and mud barn the timber should be already felled and stripped of its bark.

From now on, every opportunity should be taken to gather a supply of firewood, and stack conveniently close to the barn. From 1½-2 cords per cure will be required for the season's curing operations.

Arsenical Poisoning of Stock

By
R. N. Wardle, B.V.Sc.,
Veterinary Officer.



(Block by courtesy of Australian Cement Ltd.)

Care in Dipping is essential.

WHEN using an arsenical sheep dip or weed-killer, it should always be borne in mind that one is dealing with a potent poison, and consequently every care must be taken in its storage. Any held over after dipping should be kept in a place accessible only to the owner. Cases have occurred where a dismissed employee has mixed dipping fluid with stock feed, or with drinking water, with a consequent loss of numerous head of stock. Accidents have happened also through children obtaining an arsenic preparation carelessly left within their reach.

In mixing a dip the instructions given by the manufacturers should be carried out implicitly, and containers with any contents remaining should never be left accessible to stock. Once a container has held an arsenical preparation, it should never be used for such purposes as water storage.

Sheep should not be dipped when thirsty, as some, particularly lambs, may drink sufficient of the dipping fluid to cause poisoning. It is advisable to dip the lambs separately, as the mature sheep may cause some of the lambs to be submerged too long, with a consequent accidental swallowing of the fluid. Again, sheep should not be dipped until any extensive shear cuts have healed. Most flock owners do not dip shorn sheep until a certain growth of fleece has occurred. This is in order that sufficient dip will be retained, and by this time any cuts in the skin should have healed. Careful handling while the sheep are passing through the dip is advisable; the head, of course, must be submerged, but it should not be held under.

Draining pens should be at least two in number, and of such a size that no sheep need be turned out before all surplus fluid has drained off the wool. The drainage from these pens should return to the dip after passing through a grating which will collect extraneous material.

Numerous deaths have occurred from sheep eating herbage on which arsenical dipping fluid has fallen from insufficiently drained sheep. It should be remembered that the sheep are generally hungry, and will commence

(Continued on page 438)

Mineral Constituents of Some Victorian Honeys

W. R. Jewell, M. Sc., F.I.C., Agricultural Research Chemist.

AT the request of the Victorian Apiarists' Association an investigation was made of certain samples of honey, primarily with a view to determining whether the problem of "dwindling" (rapid falling off in the numerical strength of a colony of bees) was in any way connected with the mineral composition of honey used as stores. It is claimed that when bees are wintered on honeys from certain flora dwindling is much more likely to occur than when other honeys are used. It was suggested that mineral composition might explain these differences, a deficiency in one or more minerals perhaps causing "dwindling." The admitted complexity of the problem would lead one to doubt so simple an explanation, particularly when it is realized that successful wintering without "dwindling" is common when using refined sugar, which is practically free from mineral matter. Again, experience with particular honeys is not entirely consistent; "dwindling" is alleged to be marked with Grey Box honey, but cases of successful wintering with this store are recorded.

The number of samples analysed is far too small to form the basis of a definite pronouncement on this question, but in view of the dearth of information available on the mineral constituents of honey it was thought desirable to place on record such mineral analyses as are at present completed, particularly as even these few samples are sufficient to indicate that dwindling apparently is not connected with any mineral deficiency in the honey used as stores.

The following remarks are abstracted from an article by Morland on "Feeding of Bees" (J. Ministry of Agriculture, Jan., 1929, 495), and are quoted as being a concise explanation of the part played by honey in bee-feeding and of the use of sugar as a substitute.

The natural food of bees is honey and pollen. Honey is composed mainly of carbohydrates (or sugars) and is the typical food of adult bees, supplying them with energy. Honey is derived from the concentration and inversion of the nectar of flowers. Pollen is nitrogenous and is necessary for the production of brood. Honey consists mainly of invert sugar, i.e., equal parts of two sugars, dextrose and laevulose. Nectar is largely sucrose or cane sugar. Invertase, the enzyme responsible for inverting sucrose, has actually been found in the alimentary canal of the bee, and the process of "ripening" honey comprises both the inversion of the sucrose of the nectar by invertase and the removal by evaporation of excess water. Inversion, begun in the honey stomach of the bee, is continued at hive temperature in the cell. As honey is handled several times before being sealed over, it is fair to assume that additions of the inverting ferment are made each time it is taken up by the bee.

It has long been the custom in England to feed sugar in some form, (*a*) a concentrated syrup to supply a deficiency of stores, and (*b*) a weak syrup to stimulate the rearing of broods, in autumn to provide young bees for wintering and in spring to build up a foraging force for the honey flow. For spring stimulation honey may be used, provided it is from an unimpeachable source. It is said to give better results for this purpose than sugar syrup, probably owing to its protein and mineral salts and possibly to the enzyme and accessory food it contains.

It is generally agreed that refined white sugar should be used. In winter, even small quantities of indigestible non-sugars accumulate during the rest period and cause serious symptoms of dysentery in the spring. Hence brown sugar and molasses, containing indigestible dextrin, raffinose, &c., are unsuitable. Inversion is readily possible with weak syrup for stimulative purposes but is not so easy when feeding concentrated syrup.

Samples Analysed.

The following samples of honey were submitted:—

1. Grey Box (*E. hemipholia*).
2. Yellow Gum (*E. leucoxylon*).
3. Red Gum (*E. rostrata*).
4. Desert Banksia (*B. ornata*).
5. White Stringy Bark (*E. eugenoides*).

Grey Box (1) and Yellow Gum (2) are samples of honey on which "dwindling" frequently occurs. Red Gum (3) is alleged to be satisfactory in this respect, while Desert Banksia (4) and White Stringy Bark (5) are often satisfactory but sometimes are associated with "dwindling."

Chemical Analysis.

The following table shows the sugar content, &c., of the different samples:—

——	1.	2.	3.	4.	5.
	%	%	%	%	%
Moisture	14·9	15·0	15·3	15·1	15·3
Reducing sugars ..	72·1	72·6	72·2	73·3	68·2
Cane sugar ..	1·3	0·7	0·2	Nil	3·2
Dextrin	5·4	4·7	1·7	4·8	3·4
Reaction (pH value)	4·4	4·1	4·3	4·4	4·9

The fact that the most satisfactory sample (No. 3, Red Gum) is very much lower in dextrin or gummy matter than the others may be significant but requires confirmation.

Reactions (pH values) are given as a matter of interest, as it is rather surprising to find that honey has an extremely acid reaction, similar to that of a lemon.

Mineral Analyses.

The following table sets out in detail the complete mineral composition of these honeys, the figures representing parts per 100,000:—

——	1.	2.	3.	4.	5.
Total ash ..	191	183	199	449	583
Silica (SiO_2) ..	11	12	13	18	60
Silica-free ash ..	180	171	186	431	523
Phosphoric acid (P_2O_5)	6	8	9	11	9
Sulphuric anhydride (SO_3)	6	5	7	15	7
Chlorine (Cl) ..	51	17	32	107	82
Manganese oxide (Mn_3O_4) ..	0·6	0·3	0·3	0·4	0·5
Iron and alumina ($Fe_2O_3 + al_2O_3$)	4	6	6	10	7
Lime (CaO) ..	16	15	15	13	30
Magnesia (MgO) ..	7	4	5	8	27
Potash (K_2O) ..	77	66	68	134	215
Soda (Na_2O) ..	5	22	20	103	27

It will be seen that these five samples may be divided into two groups. The first three have a similar and comparatively low mineral composition. The last two are alike and contain nearly three times the ash of those of the first group. In all cases the major ingredients are chlorine, potash and soda, and it is only in these ingredients that there is any marked difference between the mineral composition of the low and the high ash groups.

A glance at the table will indicate that, as far as these limited samples are concerned, mineral composition is in no way connected with dwindling. For instance, Grey Box is notoriously bad and Red Gum is in high repute in this connexion and yet there is no significant difference between the two in mineral analysis. Again, Desert Banksia and White Stringybark, classed as doubtful, are highest in mineral ash. It would appear, therefore, that dwindling is not due to mineral deficiency or to any peculiar combination of mineral matter in honey.

Ash Content of Other Honeys.

The *American Bee Journal* (September, 1930, 437) gives the mineral composition of some Swedish honeys as determined by Lundgren. These were the only mineral analyses that could be traced, and they are not widely different from those of Victorian honeys above; they show the same wide variations. Lundgren suggested that a deficiency of mineral constituents in honey from certain locations might be a cause of predisposition to foul-brood, which he stated was more prevalent in clover than in heather districts; but an examination of his analyses shows marked exceptions which do not confirm his hypothesis. For instance, the honey with the largest ash came from an infected, and that with the lowest ash from a non-infected apiary.

Conclusion.

Although further work is necessary before a definite conclusion can be reached, it seems probable that "dwindling" is due to causes other than mineral deficiency. It might be interesting to test the point by feeding a honey, known to be associated with "dwindling," with and without the addition of mineral salts. It is proposed, as opportunity occurs, to continue the investigation of mineral composition of Victorian honeys from various flora.

Orchard and Garden Notes

By Edward E. Pescott, F.L.S.

The Flower Garden.

THIS month quite a large number of annuals may be planted out in the garden to make a showy display for summer and autumn. Certain annuals, such as Portulaca, Petunia, Amaranthus, and Salvia, are very suitable for placing right out in the sun, where they will grow very freely. Zinnias make a lasting display, while Asters, though brilliant, do not last for nearly so long.

Carnation seedlings should be planted out, dusting them well with lime to harden them and to keep the soil somewhat dry; carnations are lime lovers.

Delphiniums should be both manured and watered, for they are now sending up their flowering spikes. Cannas also require the same treatment. Hydrangeas should be given a weekly watering with alum water, using 1 oz. per gallon, if blue flowers are required. There are so many splendid new varieties of hydrangea now on lists, in all shades, from deep crimson to pale pink, and also white and blue, that nurserymen's lists should be studied for a selection.

Lawns may be top-dressed, sowing a few seeds before top-dressing, on the thin and bare patches. It is not necessary to use a rich top-dressing. Sand is one of the best dressings for Buffalo lawns, especially if they are on a heavy soil. After top-dressing, the soil should be raked level, and afterwards rolled.

In the Vegetable Garden.

Tomatoes, melons, marrows, pumpkins, and similar plants must be well manured and watered, so that good growth shall be made. There must be no check in their growth. Tomatoes should be well tied to stakes as they grow, and all weak side shoots should be disbudded, keeping only the strong growths.

Double Delphinium.

Cucumbers, marrows, melons, and other plants of these species should have all of their growth tips pinched out to make them produce more laterals on which the fruits are freely produced.

Two splendid cucumbers are the "apple shaped" and the "crystal apple." These are round cucumbers, very prolific, and sweetly palatable.

French beans, both runner and bush, should be sown freely for main crops. In sowing the seed, the soil should be well manured; and before covering the seed, sprinkle with lime to keep away soil pests.

Radish, mustard, and cress seeds may be sown, and these salads will give very quick results. Lettuce sowings and plantings may be made. Lettuce loves a very rich soil; and on sunny days, the plants may be watered to almost swamp conditions.

In the Orchard.

All apples and pear trees should be sprayed according to instructions given last month, making sure that the important calyx spray is not missed. This is the most urgent spray of all. Where the pear blister mite, phytoptus,

is present, the Volck spray used in conjunction with the arsenate of lead sprays will keep this in check. This pest is more serious in home gardens than in commercial orchards where spraying is regular and constant.

Fig trees should be well manured, preferably with stable manure, but with blood and bone as a substitute, if stable manure be not available.

Soil cultivation should be carried out in as thorough a manner as possible. There have been abundant rains in most districts, the subsoil is well soaked, and now attention should be directed to a good cultivation, making a fine tilth, in order to keep the water in the soil. Where green manures are being ploughed in, the whole of the growth should be well covered.

Arsenical Poisoning of Stock

(*Continued from page* 434)

to eat whilst still congregated close to the dip; therefore any yards leading from the draining pens should be kept clear of grass or weeds, and for absolute safety the sheep should not be returned to the grazing paddocks until they are dry.

One outside influence that should be kept in mind is rain. If any falls on freshly dipped sheep, it is liable to wash the dip off, and, apart from making the dipping operation less efficient, might cause sufficient poison to be deposited on the grass to affect the grazing stock. For this reason, freshly dipped sheep should always be placed in a sheltered paddock.

When dipping is completed, the pens and dip should be cleaned thoroughly, and any of the unused dipping solution disposed of in such a way that it will not drain into pools or streams accessible to stock.

Symptoms of Poisoning.

Arsenic is a corrosive irritant poison. The lesions seen in the stomach and intestines following arsenic poisoning are the result of inflammation; thus we get a gastro-enteritis or inflammation of the stomach and intestine.

Symptoms may show in an hour after the poison has been taken, and some cases will be more acute than others. The most noticeable symptoms are profuse salivation and great thirst, and the animal will be restless, with perhaps colicky pains. (In the dog vomiting occurs.) There is great pain over the region of the stomach, and before long a high-smelling, blood-contaminated diarrhoea sets in. Respiration is difficult and short, the gait is staggering, and after a time rigours occur, with weakness and paralysis of the hind quarters.

Death takes place in a few hours in acute cases, whilst in those less acute, the patient may live for two or three days.

Post-mortem Appearances.

The mucous membrane of the fourth stomach is more or less inflamed, that of severe cases being deeply injected, and of a purple or black colour. This appearance may be only in patches. Similarly the lining membrane of the intestine is affected, the most noticeable part being that around the entrance of the bile duct.

In cases of a more chronic nature, the liver is enlarged and stained a deep yellow colour.

With a knowledge of the history of the trouble, and of the symptoms and post-mortem appearances, one can generally diagnose with certainty cases of arsenical poisoning.

Treatment.

With animals capable of vomiting an emetic should be given; salt and water, or tobacco mashed up with water is generally effective for a dog. With any animal, milk, oils, fats, glycerine, and lime water may be given. These remedies should be used immediately symptoms are noticed, and whilst waiting for the following iron and magnesia antidote to be obtained.

Antidote formula.—Dissolve 100 oz. of sulphate of iron in 12½ pints of water. Add to this 15 oz. calcined magnesia mixed in another 12½ pints water. Always shake up before pouring out.

Dosage.—For horses and cattle, 1 to 1½ pints; sheep, 5 to 10 oz.; dog, 1 to 2 oz.

The dose may be repeated every half-hour. The above mixture should be made up freshly when required for use, and it is suggested that a small amount, say one-fifth, of the above quantities of the drugs might with advantage be held in stock for cases of emergency.

Twenty oz. of sulphate of iron and 3 oz. of magnesia in separate screw-topped jars would keep indefinitely, and would make 10 to 20 single doses for sheep.

Professional Papers

[This section is devoted to professional papers and articles of a scientific character.]

Note on Available Nitrogen in Pasture Soils

By F. Penman, M.Sc., Assistant Research Chemist.

MODERN methods of pasture management, in their tendency towards intensive systems, have focussed attention on problems such as the efficiency of conversion of inorganic nitrogen, applied in the form of fertilizers, into proteins of grass. Widespread interest is being shown in the response of various types of pasture to nitrogenous fertilizer and in the determination of the optimum times to apply such dressings. Quantitative trials to investigate these points are concerned almost entirely with estimation of yield of grass, either by mowing or grazing trials, resulting from applications of fertilizers. Apparently very little attention has been given to the soil environment in connexion with such studies.

It would appear highly desirable to investigate available nitrogen in pasture soils in an attempt to find a principle to guide the use of nitrogenous fertilizer, both as regards time of application and nature of soils and pastures likely to respond. The development of such a principle would remove the uncertainty which at present attends the use of nitrogen under local conditions. It is known that great differences in response are obtained at various locations. It is considered that these differences are not explicable in terms of differences in the nature of the pastures themselves or in their climatic environments. In Victoria there are pastures which show striking response to nitrogenous fertilizer applied at certain times and others which do not respond appreciably at any time of the year.

The general idea underlying this note is that, in those pastures which respond appreciably, available nitrogen in the soil at the time of application must have been sufficiently low to set a limit to the growth of grass. After application, the pasture is able to respond to an extent corresponding to a new level of available nitrogen (bearing in mind that owing to activity of soil micro-organisms and other factors not all the applied nitrogen may be available) or in some cases to a less extent corresponding to the limit imposed by some growth factor other than nitrogen. On the other hand, in those pastures which do not show appreciable response, it would seem that sufficient nitrogen to meet crop needs is already available in the soil, i.e., nitrogen is not a limiting factor, and the growth of grass is either optimum or limited by something other than nitrogen. The outstanding nutrient deficiency in Victorian pasture soils is lack of phosphate. The present discussion assumes that this lack has been remedied by liberal use of superphosphate. In the field, plots receiving superphosphate and nitrogen were always compared with plots receiving superphosphate only.

For the present purpose we may consider "available nitrogen" of the soil as inorganic nitrogen, i.e., nitrogen in the form of nitrate, nitrite or ammonia. Of these constituents, it soon became manifest in the soils examined that nitrite, as evidenced by the Gries-Ilosvay test, was of no practical importance because of its minute concentration. In this respect pasture soils do not differ from normal arable soils. It was found also that nitrate nitrogen seldom rose much above one part per million of soil, in contrast with the high concentrations of this constituent often found in arable soils. It is probably on this account that little attention has been given to available nitrogen in pasture soils, because nitrate values have generally been regarded as of prime importance in showing the nitrogen-supplying power of soils. It is shown below that in the

absence of plant growth, nitrate can accumulate in these soils, so that the low nitrate level is not to be attributed to lack of nitrifying power. It appears that in the dynamic system concerned with production of nitrate and its use by pasture plants, rate of utilization is such that nitrate is normally kept at a minimum.

A study of ammoniacal nitrogen in the soil may throw light on the present problem. Accumulation of ammonia does not occur in normal arable soils, because nitrification processes oxidize it more rapidly than ammonification processes make it available from organic nitrogen complexes (Russell: Soil Conditions and Plant Growth, p. 255). However, Russell (loc. cit., p. 180) indicates that a value ranging about 10 parts of ammoniacal nitrogen per million of soil is to be expected in pasture soils. Perhaps this is connected with the close character of sod as compared with cultivated land and with the fact that pastures are of major importance under high rainfall conditions where acid reactions are likely to occur in soils. According to Pollard (chapter 30 in Britton's *Hydrogen Ions*) ammonification tends to get ahead of nitrification in soils of reaction lower than pH 5.5. Within the range of pH 5.5 to 6.5 the difference in rate between the two processes is not likely to be great. Most of the soils examined fall in this latter range. An accumulation of ammonia above the normal level is likely to be of considerable value to such a soil, ensuring that nitrate production, by microbial oxidation of ammonia through the nitrite form, is always at a maximum for the soil concerned. Such a soil is able to take immediate advantage of any change in conditions, for instance, a rise in temperature, which gives increased impetus to nitrification. Nitrification of portion of the ammonia reserve under changed conditions has been observed for some of our pasture soils in laboratory experiments described below.

There is another aspect of ammonia accumulation which demands attention. Without entering into the controversy as to the relative merits of ammonia and nitrate as plant foods, the possibility of ammonia as a direct nutrient are of obvious importance in the present discussion. If ammonia be capable of direct absorption by pasture plants, as has been claimed by some workers, the presence of a reserve becomes very significant.

From these points of view then, as a source of nitrate (and probably the greatly dominant source because fixation of nitrate by free-living organisms is unlikely to be important under pasture conditions), and as a possible direct nutrient, ammonia in pasture soils appears worthy of study as a key to available nitrogen. As an outcome of the above argument one might expect varying responses of pasture to nitrogenous fertilizer according to the extent of accumulation of ammoniacal nitrogen in the pasture soils.

The method adopted for determination of ammoniacal nitrogen in an exploratory examination of local pasture soils was that of McLean and Robinson (*J. Agric. Science* 14, 548). This is really a base exchange method and measures nitrogen which readily takes the form of ammonium ions. The extent to which values given by this method may be directly interpreted as available ammonia is not yet clear.

It is proposed to illustrate the above discussion by reference to some of our pasture soils. Soil samples in all cases were composites from numerous holes bored from the surface to a depth of 6 inches. The results discussed in this note were those from the control plots, receiving superphosphate only. On most samples determinations of nitrate (by phenol disulphonic acid method) and of ammonia were made, and in several cases nitrite was tested for. Table I. shows data for two pasture soils which respond very differently to applied nitrogen.

TABLE I.

(Analytical Figures in Parts per 100,000 of Soil, except Ammonia.)

	Darnum Soil.	Mernda Soil.
Nitrogen	202	120
Phosphoric oxide ..	110	42
Potash	403	123
Lime	216	118
Magnesia	171	132
Chlorine	14	8
Reaction pH ..	5·6	5·9
Ammoniacal nitrogen during winter (p.p. million dry soil) ..	31	11
Nature of growth of pasture with superphosphate only ..	Very vigorous	Poor, with rank patches
Nature of response to nitrogenous fertilizer	Poor	Striking

It will be seen that Darnum soil is much superior to Mernda soil from the chemical point of view. It is also superior physically, being a silty clay loam of good texture, whereas Mernda soil, developed from basalt, is a clay loam of close character. Both pastures consisted of sown grasses. The actual details of pasture management, quantitative response to fertilizers, economic considerations, &c., are the property of other workers, and do not concern this discussion.

Ammoniacal nitrogen values have been traced at Darnum at irregular intervals for two seasons. The values vary considerably (cf. McLean and Robinson, loc. cit.), and the figure 31 is an average for the winter months of 1930. The figure obtained during the winter of 1929 was 42 parts per million. "Winter" may be taken to include late autumn and early spring, i.e., it includes the season of chief interest from the point of view of application of fertilizer to pastures.

From the point of view of the present discussion, considerable significance is attached to the difference in ammonia content between Darnum and Mernda soil. The response of Mernda pasture to applied nitrogen was very striking, the ordinary pasture making poor growth, but showing during winter almost immediate and large response to an application of nitrogen equivalent to about 10 parts per million for the surface 6 inches of soil. As noted in the table the ordinary pasture showed a marked number of rank patches of grass. Such an effect, along with poor colour in the ordinary grass, is usually taken as an indication that nitrogen is a limiting factor, the rank patches usually being associated with animal excrement. A composite soil sample from beneath rank patches revealed a slightly higher nitrate content, and a very much greater ammonia content, than a composite from adjoining ordinary pasture (see Table II.). Most of the rank spots appeared to be due to urine.

The figures of Table II. support the view that the presence of a marked number of rank patches may be taken as a sign of nitrogen deficiency in pastures (cf. Gainey and Sewell, *J. Am. Soc. Agron.* 22, 639, for a similar effect in wheat).

At Darnum the pasture showed very little response to nitrogen applied at any time, even in amounts equivalent to about 26 to 78 parts per million for the surface 6 inches of soil. All the evidence tends to show that at Darnum nitrogen is made available at a rate sufficient to supply the need of the vigorous pasture carried. At Darnum it has been observed that when growth of grass is checked, as after severe cutting or after "burning" by the addition of heavy dressings of sulphate of ammonia, an accumulation of nitrate may occur for a time, rising to values of the order of 10 to 15 parts per million.

Table II.

—	Ordinary Pasture.	Rank Patches.
Nitrate nitrogen (p.p. million dry soil)	1	2
Ammoniacal nitrogen (p.p. million dry soil)	11	87
Reaction pH	5·8	5·8

These pastures at Darnum and Mernda are at the extremes of the range so far studied. Some pastures of intermediate character are discussed below, with qualitative descriptions of their response to applied nitrogen. At Warragul a pasture showing fair general growth and quite decided response to winter application of nitrogen has been under observation. The soil reaction here is pH 5.8, and values for ammoniacal nitrogen range about 10 to 14 parts per million.

At Colac a soil of reaction pH 5.9 supports a good pasture which shows decided response to winter and early spring applications of nitrogen. Here the ammoniacal nitrogen content in late winter was about 17 parts per million, rising somewhat with the advance of spring.

Incubation tests at 22 deg. C. for 40 days were carried out in the laboratory for Darnum and Colac soil, using two sets of moisture conditions (soil at sticky point and soil at two-thirds this moisture value), and comparing untreated soil with samples to which sulphate of ammonia had been added to an extent equivalent to 26 parts per million of ammoniacal nitrogen. Nitrate accumulated at the expense of ammonia in all cases, any added ammonia being nitrified, and the original soil value for ammoniacal nitrogen falling by about 10 parts per million. In the untreated soils in all cases nitrate accumulated to about 40 to 50 parts per million and in the soils containing sulphate of ammonia nitrate reached values of about 85 parts per million. These tests

showed that ammonia accumulation does not occur in these soils under laboratory conditions, that nitrifiers are reasonably active, and that there is slight evidence of a "trigger effect" in the use of sulphate of ammonia. A trigger action has been suggested as the explanation for large effects on plant growth which sometimes follow the application of comparatively small amounts of nitrogenous fertilizer. It has been suggested that the presence of inorganic nitrogen causes increased production of available nitrogen from the soils. In these soils there was on the average an amount of about 12 parts per million of available nitrogen which may have been due to such an effect. At any rate, the recovery of more than the applied amount of nitrogen shows that, after 40 days under laboratory conditions, none of the applied nitrogen was in an unavailable form (cf. Russell, *J.A.S.*, 3, 233). It is proposed to extend this type of test to other soil types and to find whether there is any rendering unavailable of portion of the applied nitrogen for a certain length of time after application as Russell's work and some of the effects in the field would indicate.

A pasture soil of rather different reaction (pH 7.0) to those described above has been sampled at Geelong. Here ammoniacal nitrogen was about 15 parts per million, and response of the ordinary pasture to applied nitrogen in early or midwinter was very good. At this location there was one field which had been used previously as a homestead paddock for some years and in which the growth of grass was particularly luxuriant. It had not been top-dressed, except with superphosphate. It was expected that ammoniacal nitrogen might be fairly high there, but actually it was no different to the other fields. There was, however, a significantly higher nitrate content (see Table III.).

The reaction value of this soil brings it into a range where nitrification dominates ammonification (Pollard: loc. cit.), so that in this fertile homestead paddock it appeared that even in the presence of a very luxuriant growth of grass, a nitrate value of three parts per million could be attained. It would seem that in cases like this there is actually a danger of loss of available nitrogen in the form of nitrate by leaching, ammonia being kept to a low level by nitrification and more nitrate being produced than even a very vigorous growth of grass can utilize. In this instance, accumulation of nitrate was not due to any check in growth of the kind described for Darnum where nitrate accumulated. The superiority in chemical analysis of this homestead paddock soil over the ordinary soil is evident from Table III. While the difference in nitrate values for the two types of soil may appear small, it is experimentally significant and highly significant from the interpretative point of view, especially when it is pointed out that growth of grass was strikingly more vigorous on the homestead paddock than elsewhere. Further cases of this kind with a high degree of nitrate availability might well be expected when the work is extended to northern pastures where higher temperatures and higher soil reactions prevail than in most of the southern pastures so far examined.

Following the lines suggested by the above discussion and illustration, for pasture soils under similar climatic conditions available nitrogen is likely to be higher the greater the fertility of the soil, as shown by chemical analysis and general character. This being so, response to applied nitrogen may be expected to be related in an inverse manner with fertility. Of course, numerous local conditions must be considered in work of this kind. Botanical composition of pastures is important in that certain kinds of pasture plants are

TABLE III.

Figures are p.p. 100,000 of Soil except Ammoniacal and Nitrate Nitrogen, which are p.p Million.

——	pH.	N.	P_2O_5.	CaO.	MgO.	K_2O.	Ammoniacal Nitrogen.	Nitrate Nitrogen.
Ordinary paddock ..	7·0	160	61	498	562	216	15	1
Homestead paddock ..	6·8	272	105	350	532	468	15	3

inherently capable of greater response to fertilizer than others. Incidence of rainfall, variations in temperature, frequency of cutting or intensity of grazing of pasture, and chemical composition and total productivity of pasture must all be considered in interpreting results. It is considered that further work along these lines gives promise of developing a general principle regarding available nitrogen, which will clear the many inconsistent and sometimes anomalous results obtained with pastures. It is contemplated to extend the scope of the work to cover a wide range of pastures, including irrigated pastures and to make special studies of extreme cases. The depth-distribution of available nitrogen and its seasonal fluctuation will be studied more fully. It is expected that certain difficulties in interpretation and points in experimental technique will be cleared up in the course of this broader survey.

SUMMARY.

It is suggested that a study of available nitrogen in pasture soils is likely to be of value as a guide to the use of nitrogenous fertilizer on pastures. In this connexion, the limited number of local soils so far examined indicate that ammoniacal nitrogen is of importance under pasture conditions.

It is suggested that an accumulation of ammoniacal nitrogen indicates reserve of available nitrogen, and that response of pasture to nitrogen applied in the form of fertilizer is related in an inverse manner with this reserve. Most of the soils so far examined have been in the reaction range pH 5.5 to 6.0. There is evidence to suggest that for more alkaline soils nitrate nitrogen values will be important.

This and other published work tends to show that in a broad way response of pasture to applied nitrogen is inversely related to fertility. Other published work goes to show that response is greater on the more productive pastures. Probably differences in botanical nature of the various pastures serve to some extent to explain such apparent anomalies, and it is hoped that further work on available nitrogen will be of considerable help in clearing these difficulties.

Acknowledgments.

The writer is indebted to Mr. R. L. Twentyman, Agrostologist of this Department, who is conducting the field trials at Darnum, Warragul, and Colac, for supplying soil samples and notes on the pastures. Mr. W. V. Blewett gave opportunity and facilities for inspection and sampling at Mernda and Geelong, and gave notes on field work connected with these pastures. In this, as in all other work, the writer is indebted to his chief, Mr. W. R. Jewell, for advice and help, especially for making available assistance with the analytical work, in this instance chiefly through Mr. J. K. Skene, whose help is also here acknowledged.

Hoary Cress Experiments

Owing to lack of space it has been found necessary to hold over until the October issue of the Journal, the second portion of Mr. Morgan's paper on experiments carried out at the Werribee Research Farm on the control of hoary cress. The first part of this paper appeared in the August issue.

Standard Herd Records

For Quarter ended 30th June, 1931

In the following is set out the records of all cows which completed a lactation during the quarter. The number is 1121, of which 857 qualify for the certificate.

The amount of butter fat required for qualification varies according to the age of the animal (up to 5 years at time of calving), the standards being as follow :—

Junior 2 year old (under 2½ years at time of calving)	200 lb. butter fat.
Senior 2 year old (between 2½ and 3 years at time of calving)	225 lb. butter fat.
Junior 3 year old (between 3 and 3½ years at time of calving)	250 lb. butter fat.
Senior 3 year old (between 3½ and 4 years at time of calving)	275 lb. butter fat.
Junior 4 year old (between 4 and 4½ years at time of calving)	300 lb. butter fat.
Senior 4 year old (between 4½ and 5 years at time of calving)	325 lb. butter fat.
Mature cow 5 years and over	350 lb. butter fat.

(Except where otherwise stated, the period of Test was 273 days.)

Owner.	No. completed Test.	No. Certificated.	Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Class.	Previous Yields of Butter Fat.
						lb.	lb.		lb.			
Alston, N. B., Romsey (Jersey)	8	6	Rosyth Golden Duchess	28371	11.7.30	9½	2,984	6·89	205·74	225	Sr. 2	326
			Rosyth Lady Magnet	Vol. 18	2.8.30	11½	5,478	5·22	285·76	200	Jr. 2	
			Rosyth Lady Daffodil	Vol. 18	3.8.30	11½	6,569	4·68	307·48	200	Jr. 2	
			Rosyth Bonnie Lassie	Vol. 18	18.8.30	10	5,585	5·28	295·14	200	Jr. 2	
			Rosebud of Aberdour	14944	26.8.30	5	6,066	5·53	335·42	350	Mature	233, 442, 344
			Rosyth Tulip's Beauty	26380	26.8.30	12½	6,489	4·80	311·15	275	Sr. 3	267, 281
			Rosyth Lady Beauty	Vol. 18	28.8.30	8½	5,021	4·59	230·56	200	Jr. 2	
			Rosyth Tulip ..	21083	21.9.30	14½	8,517	5·50	468·02	350	Mature	440, 450
Anderson, J., Lyndhurst (Jersey)	2	2	Kingsvale Brunette 24th	25714	15.7.30	14½	5,975	5·81	347·38	225	Sr. 2	244
			Kingsvale Rosella 15th	25719	23.9.30	12½	5,052	5·55	280·45	200	Jr. 2	
Archibald and Sons, Sale (Jersey)	5	3	Glenallan Hawthorn ..	28385	29.7.30	14	5,504	4·88	268·43	200	Jr. 2	
			Glenallan Twinkle ..	24214	1.9.30	12	5,294	5·09	269·58	275	Sr. 3	311
			Glenallan Luxury ..	28386	8.9.30	16½	6,185	5·12	316·70	200	Jr. 2	
			Glenallan Tulip ..	24213	22.9.30	13½	6,195	5·68	351·94	275	Sr. 3	342
			Lux of Roelands ..	21641	25.9.30	12	5,390	4·63	249·45	350	Mature	
Archibald, L. R., Tongala (Jersey)	9	7	Coral of Mayaver ..	21679	17.7.30	15	7,722	5·06	390·81	350	Mature	401
			Mayfield Park Lady Helen	25725	30.7.30	15½	4,892	6·30	308·04	200	Jr. 2	248
			Mayfield Park Lady Monica 3rd	22930	31.7.30	17	6,486	6·06	392·92	300	Jr. 4	270, 321
			Daisy of Mayfield Park	17682	10.8.30	13½	5,322	5·22	278·07	350	Mature	213, 286, 318
			Wompini Vanilla ..	24605	15.8.30	28½	9,051	4·91	444·21	275	Sr. 3	334
			Mayfield Park Lady Gay	28387	18.8.30	16½	3,302	5·66	186·88	200	Jr. 2	
			Holmlea Mavis ..	29517	25.8.30	12	6,201	5·41	335·47	250	Jr. 3	337
			Mayfield Park Lady Patricia	28388	31.8.30	14	4,782	5·34	255·34	200	Jr. 2	
			Mayfield Park Daisy 2nd	24215	5.9.30	13½	5,561	5·53	307·66	250	Jr. 3	269
Atherton, W. H., Murraydale (Jersey)	8	8	Silver Wattle of Bellaire	13322	24.7.30	21	8,855	4·56	404·00	350	Mature	419, 450, 456
			Beverley Quality 2nd	25733	19.8.30	6	5,124	4·81	246·46	225	Sr. 2	220
			Beverley Wattle Blossom	24219	23.8.30	19	9,405	4·80	451·61	300	Jr. 4	320
			Quality's Rosella of Beverley	21095	24.8.30	20	8,574	5·45	467·12	325	Sr. 4	261, 447, 406
			Empress of Beverley ..	18607	30.8.30	21	8,783	5·13	450·20	350	Mature	372, 310, 464
			Beverley Tiny's Lass ..	24218	1.9.30	9½	7,094	5·34	379·08	300	Jr. 4	328, 402
			Beverley Mythic 2nd ..	25732	14.9.30	14	4,819	5·69	274·23	225	Sr. 2	240
			Mythic of Beverley ..	18608	22.9.30	21½	9,356	5·66	529·48	350	Mature	330, 361, 521

STANDARD HERD RECORDS—*continued.*

Owner.	No. completed Test.	No. Certificated.	Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Class.	Previous Yields of Butter Fat.
						lb.	lb.		lb.			
Atkinson, W. K., Swan Hill (Milking (Shorthorn)	21	21	Chance of Willow Park	Vol. 1	18.7.30	28	11,306	4·34	490·98	350	Mature	294, 348, 395
			Willow Park Moss Rose 3rd	Vol. 1	20.7.30	28½	9,900	3·64	360·60	200	Jr. 2	
			Willow Park Melba 3rd	Vol. 1	27.7.30	26	8,403	3·90	327·41	225	Sr. 2	
			Willow Park Cherry ..	9198	28.7.30	47	17,789	4·09	727·37	350	Mature	686, 630, 737
			Willow Park Damsel 2nd	Vol. 1	3.8.30	13½	10,358	4·36	451·85	275	Sr. 3	361
			Moss Rose of Willow Park	14221	6.8.30	37	14,745	4·15	612·18	350	Mature	424, 471, 521
			Queenie 8th of Willow Park	Vol. 1	8.8.30	17½	9,608	3·93	377·75	350	Mature	315, 309, 345
			Willow Park Melba 4th	Vol. 1	8.8.30	22½	7,515	4·43	333·27	225	Sr. 2	
			Duchess 5th of Willow Park	Vol. 1	10.8.30	20½	9,629	3·91	376·36	350	Mature	264, 307, 352
			Willow Park Countess 3rd	Vol. 1	12.8.30	28½	11,334	4·17	472·65	325	Sr. 4	310, 397
			Willow Park Dainty 3rd	Vol. 1	12.8.30	30½	10,805	3·96	428·03	225	Sr. 2	
			Jessie of Willow Park..	13856	12.8.30	23	10,836	3·96	428·59	350	Mature	359, 422, 475
			Willow Park Queenie 16th	Vol. 1	18.8.30	19	9,015	3·61	325·60	250	Jr. 3	261
			Willow Park Duchess 9th	Vol. 1	24.8.30	16½	8,418	4·04	339·87	275	Sr. 3	291
			Willow Park Camelia 3rd	Vol. 1	26.8.30	26	10,983	3·97	435·78	275	Sr. 3	307
			Willow Park Countess 4th	Vol. 1	30.8.30	12	8,564	4·25	363·73	275	Sr. 3	283
			Willow Park Melba 2nd	Vol. 1	31.8.30	28½	11,484	4·20	482·60	275	Sr. 3	415
			Willow Park Duchess 7th	Vol. 1	11.9.30	15½	8,042	4·31	346·49	325	Sr. 4	262, 265, 364
			Willow Park Duchess 11th	Vol. 1	11.9.30	22	7,628	3·92	298·85	225	Sr. 2	
			Willow Park Duchess 10th	Vol. 1	16.9.30	20	8,712	4·13	359·81	225	Sr. 2	253
			Willow Park Comet 4th	Vol. 1	26.9.30	21½	9,666	4·24	409·41	275	Sr. 3	305
Bailey, A. P., Yannathan (Jersey)	1	1	Wompini Rosalie ..	24604	6.9.30	10½	5,754	6·02	346·28	300	Jr. 4	315, 327
Ballarat Orphanage, Ballarat (Jersey)	12	9	Dunallister Mannikins Attraction	10381	5.7.30	16	6,876	4·60	316·47	350	Mature	277, 268, 268
			Countess 3rd of Lesterfield	12164	10.7.30	16	7,438	4·93	366·58	350	Mature	386, 373, 347
			Orphanage Vanilla's Melba 2nd	Vol. 18	10.8.30	19½	5,882	5·10	299·76	200	Jr. 2	
			Orphanage Starbrights Zaffarine	Vol. 18	28.8.30	13	5,495	5·29	290·64	200	Jr. 2	
			Dunallister Starbrights Dukes Czarina	19943	28.8.30	10	4,827	5·71	275·80	350	Mature	
			Orphanage Audrey Jessie	Vol. 18	6.9.30	9	4,942	4·61	227·71	200	Jr. 2	
			Orphanage Duke's Mirthmaker	Vol. 18	13.9.30	15½	5,186	5·63	292·14	200	Jr. 2	
			Moorella's Pearl ..	Vol. 18	14.9.30	15	4,262	5·54	236·02	200	Jr. 2	
			Dunallister Zaffarine 2nd	25253	15.9.30	15	5,947	5·39	320·35	325	Sr. 4	354
			Orphanage Allan's Pearl	Vol. 18	21.9.30	14	4,694	5·14	241·35	200	Jr. 2	
			Orphanage Lady ..	25256	23.9.30	13½	5,955	5·51	328·27	250	Jr. 3	260
			Tavistock Audrey's Princess	28615	24.9.30	11½	5,256	5·72	300·58	300	Jr. 4	324
Barber Bros., Somerville (Jersey)	1	1	Curio 3rd of St. Johns	17705	30.8.30	18½	7,578	5·96	451·28	350	Mature	
Basset Smith, C., Kyabram (Red Poll)	7	3	Flowing Vale Vision ..	17950	13.7.30	9	6,621	4·57	302·34	325	Sr. 4	286
			Victoria Turban ..	2340A	14.7.30	17	8,963	4·09	366·47	250	Jr. 3	298
			Victoria Kiwi ..	1658A	17.7.30	15½	7,665	4·16	318·85	350	Mature	215, 213
			Temperley Rosita ..	1648A	8.8.30	17	6,500	4·51	292·89	275	Sr. 3	190
			Flowing Vale Bena ..	1765B	14.8.30	6	6,635	4·39	291·59	350	Mature	301
			Victoria Traybit ..	1674A	16.8.30	12	8,079	4·05	327·51	350	Mature	285, 285
			Victoria War Dove ..	1677A	10.9.30	9½	7,089	4·97	352·23	350	Mature	282, 248
Belfield, G. H. Coleraine (Jersey)	3	3	Wootong Vale Gold Carnation	21114	13.7.30	20	9,240	5·22	482·74	325	Sr. 4	356, 403
			Wootong Vale Sovereign Princess	21116	1.8.30	11	9,177	4·28	392·99	325	Sr. 4	443,386
			*Wootong Vale Duke's Variety	28440	31.8.30	4	5,295	4·91	259·80	200	Jr. 2	

* 240 days in test.

STANDARD HERD RECORDS—*continued.*

Owner.	No. completed Test.	No. Certificated.	Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Class.	Previous Yields of Butter Fat.
							lb.	lb.		lb.		
Bidgood, F., Staghorn Flat (Jersey)	13	13	Staghorn Master's Madeira	22984	30.7.30	25½	8,600	5·70	489·94	325	Sr. 4	294, 431
			Staghorn Fox's Clementine 4th	18633	8.8.30	21	8,939	5·68	507·79	350	Mature	337, 385, 433
			Staghorn Master's Fancylark	28453	9.8.30	26	8,930	5·36	478·97	250	Jr. 3	426
			Staghorn Master's Larkspur	28455	12.8.30	24½	8,096	5·67	458·66	200	Jr. 2	
			Staghorn Master's Clementine	22980	17.8.30	15½	6,904	5·93	409·26	300	Jr. 4	388, 415
			Staghorn Master's Fairy	28451	28.8.30	15½	5,625	6·02	338·85	200	Jr. 2	
			Staghorn Master's Belle 2nd	28450	29.8.30	23½	7,296	5·66	412·95	200	Jr. 2	
			Staghorn Master's Fancy 2nd	28452	29.8.30	25½	8,912	6·22	554·76	250	Jr. 3	454
			Staghorn Master's Belle	25762	10.9.30	21½	8,096	6·23	504·32	250	Jr. 3	425
			Staghorn Northern Larkspur	28460	17.9.30	18½	6,908	5·50	380·19	250	Jr. 3	287
			Staghorn Master's Cello	25763	22.9.30	19½	7,791	5·67	441·58	250	Jr. 3	293
			Sweet Lotus of Staghorn	16615	22.9.30	19½	7,592	5·42	411·24	350	Mature	256, 304, 386
			Staghorn Una ..	18447	23.9.30	19½	7,772	5·57	433·13	350	Mature	447, 467
Black, Mrs. A. J., Noorat (Jersey)	1	..	Noorat Gossamer ..	16217	27.7.30	8½	5,070	5·48	277.92	350	Mature	305, 460, 394
Black, I. S., Noorat (Home Farm) (Ayrshire)	4	3	Sparrovale Ailsa Craig	16632	8.7.30	18	8,219	3·76	308·94	300	Jr. 4	256, 291
			Bow Bell of Ben Kell	14081	5.8.30	16	8,148	3·62	295·01	350	Mature	271, 333, 323
			Oakbank Alert ..	18694	19.8.30	14	7,006	4·04	283·11	225	Sr. 2	291
			Mt. Noorat Marigold ..	18648	7.9.30	21	7,836	3·69	289·02	225	Sr. 2	
Black, I. S., Noorat (Share Farm) (Ayrshire)	1	..	*Sunnyside Rosemary ..	16822	30.7.30	4	2,865	4·31	123·42	300	Jr. 4	140
Bolton, S., Mannerin (Jersey)	4	4	Rosie of Enterprise ..	21146	4.7.30	17½	8,214	5·04	413·98	350	Mature	271, 344, 395
			Trixie of Enterprise ..	21147	18.7.30	15	9,617	4·88	468·85	325	Sr. 4	274, 370, 459
			Glenmavis Noble Dawn	28472	8.8.30	12	4,820	5·27	254·22	200	Jr. 2	
			Glenmavis Noble Gift..	25285	5.9.30	10	6,036	6·25	377·47	225	Sr. 2	319
Box, Dr. J., Whittlesea Farm (Jersey)	1	..	Crusoe Pet	18675	5.8.30	14	6,634	4·70	311·89	350	Mature	357, 353
Box, Dr. J., Noojee Farm (Jersey)	2	1	Gay Girl of Eurungee	18824	5.9.30	9	5,511	5·34	294·09	350	Mature	298
			Mayland Heath ..	22998	7.9.30	15	7,461	4·46	332·49	300	Jr. 4	
Box, Dr. J., Surrey Hills (Jersey)	1	..	Werribee Wyandotte ..	17717	18.8.30	..	3,860	6·47	249·57	350	Mature	443
Broad, A. A., Sutton Grange (Jersey)	4	4	Glenoshea Ada ..	28492	12.8.30	17½	6,789	5·02	340·56	200	Jr. 2	
			Glenoshea Velveteen ..	28494	24.8.30	16½	5,615	4·37	245·39	200	Jr. 2	
			Grangelea Daffodil 3rd	28496	2.9.30	12½	4,003	6·04	241·97	200	Jr. 2	
			Rosebud 3rd of Grangelea	18651	15.9.30	17½	8,843	4·56	402·91	350	Mature	329, 411
Buchanan, J. M., Flinders (Ayrshire)	10	7	Gleneira Linnet ..	14497	6.8.30	10	8,144	3·87	315·17	350	Mature	
			Gleneira Chubby ..	16134	8.8.30	10½	7,311	4·36	318·80	325	Sr. 4	
			Gleneira Chic ..	20124	24.8.30	12½	7,011	5·29	371·07	225	Sr. 2	
			Gleneira Likeness ..	20138	1.9.30	10½	7,371	4·50	331·90	250	Jr. 3	
			Lady McGown of Gleneira	11751	7.9.30	16½	10,130	3·76	381·29	350	Mature	
			Gleneira Dandelion ..	18034	10.9.30	9	7,954	4·13	328·11	300	Jr. 4	
			Gleneira Cheeky ..	21513	11.9.30	8½	4,341	4·92	213·54	200	Jr. 2	
			Gleneira Lady Algie ..	20136	15.9.30	5½	7,007	4·14	289·85	250	Jr. 3	
			†Gleneira Hebe ..	20132	16.9.30	4	4,995	4·11	205·30	250	Jr. 3	
			Lady McBeth of Gleneira	8442	20.9.30	6½	9,972	3·74	372·64	350	Mature	359, 363

* 150 days in test. † 240 days in test.

STANDARD HERD RECORDS—*continued.*

Owner.	No. completed Test.	No. Certificated.	Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Class.	Previous Yields of Butter Fat.
						lb.	lb.		lb.			
Burton, W., Kongwak (Friesian)	1	1	Willowburn Princess Daffodil	C.R.	30.8.30	17½	8,772	3·58	314·24	275	Sr. 3	
Cameron, D., and Sons, Valencia Creek (Jersey)	3	3	Werribee Fancy Starbright 2nd	17716	10.7.30	29	10,058	4·46	448·75	350	Mature	351, 428, 436
			Studleigh Harebell 3rd	Vol. 18	28.8.30	25	7,794	5·77	449·92	200	Jr. 2	
			Eminent's Minnehaha 7th of Clarendon Eyre	21268	10.9.30	16½	9,060	4·65	421·66	350	Mature	302, 321
J. Canobio, Bena (Ayrshire)	15	8	Glen Erin Fairy ..	18096	15.7.30	14	6,566	3·87	253·89	225	Sr. 2	
			Glen Erin Flossie ..	18097	20.7.30	13	5,449	4·37	238·28	200	Jr. 2	
			Freda of Glen Erin ..	8751	22.7.30	5½	5,634	3·85	216·78	350	Mature	321, 315
			Sunshine of Glen Erin	8753	24.7.30	8	6,432	3·92	252·28	350	Mature	306, 329, 252
			Glen Erin Fortune ..	16195	31.7.30	13½	7,680	4·11	315·92	275	Sr. 3	320, 233
			Fashion of Glen Erin ..	7142	5.8.30	11½	8,496	3·51	298·00	350	Mature	292, 299
			Glen Erin Dawn ..	16194	23.8.30	18	7,521	4·32	324·73	275	Sr. 3	259, 242
			†Donside Olivette ..	21324	23.8.30	4	4,920	4·03	198·36	225	Sr. 2	259
			Glen Erin Sunshade ..	18100	23.8.30	15	6,254	4·24	265·09	225	Sr. 2	218
			Dorris of Glen Erin ..	7139	25·8·30	17	8,141	3·82	311·03	350	Mature	364, 347
			Glen Erin Lass ..	20158	27.8.30	11½	5,543	4·25	235·50	200	Jr. 2	
			Glen Erin Flo ..	20157	1.9.30	11½	4,533	4·11	186·18	200	Jr. 2	
			Glen Erin Fondness ..	21543	6.9.30	10½	4,604	4·50	206·99	200	Jr. 2	
			Glen Erin Patch ..	21547	9.9.30	11½	5,931	3·98	235·90	200	Jr. 2	
			*Donside Lorna ..	21322	26.9.30	4	3,315	4·42	146·60	200	Jr. 2	
W. C. Cayley, Werribee (Ayrshire)	4	2	†Oakbank Poewit ..	15281	1.8.30	4	6,450	4·44	286·41	350	Mature	212
			Riversdale Trifler ..	20691	10.9.30	11½	7,215	3·90	281·44	200	Jr. 2	
			†Maisie of Sunnyside ..	12991	21.9.30	4	6,465	3·82	246·80	350	Mature	329, 248
			Riversdale Opera Queen	20689	21.9.30	24½	8,946	4.50	402·63	200	Jr. 2	
J. E. Chadderton, Hamilton (Jersey)	4	4	Clover Flat Glossy 2nd	28531	15.8.30	17	7,164	5·37	384.88	200	Jr. 2	
			Glen Leigh Foxglove ..	24287	16.8.30	13½	7,140	5·63	401·73	250	Jr. 3	308
			Glen Leigh Dora ..	25789	23.8.30	20½	8,507	5·82	495·31	225	Sr. 2	382
			Lassie 3rd of Strathbow	15464	30.8.30	15½	6,350	6·12	388·34	350	Mature	372, 392, 397
J. Charlton, "Lumeah," Stony Creek (Jersey)	10	6	Duchess of Lumeah ..	18660	21.7.30	13½	6,600	4·94	326.35	350	Mature	305, 374, 319
			Lumeah Rosebud ..	26306	25.7.30	17	6,506	5·13	334·04	250	Jr. 3	283
			Lumeah Una ..	26308	28.7.30	12	4,712	4·54	214·06	225	Sr. 2	218
			Lumeah Foxglove ..	24289	30.7.30	16	7,483	5.42	405.39	275	Sr. 3	362
			Lumeah Sunbeam ..	24293	7.8.30	22	8,176	5.40	441.13	275	Sr. 3	314, 328
			Lumeah Marigold ..	24291	12.8.30	10	6,150	4.46	274.51	300	Jr. 4	279, 317
			Boronia of Lumeah ..	13705	20.8.30	23	8,839	4·92	434·92	350	Mature	512, 511,479
			Melba of Lumeah ..	12886	3.9.30	12	6,617	5·28	349·08	350	Mature	332, 334, 374
			Lumeah Begonia ..	28537	10.9.30	15½	5,571	5·22	290·61	200	Jr. 2	
			Lumeah Rose ..	28541	24.9.30	10	5,478	5·18	283·49	200	Jr. 2	
E. L. Chester, Mount Scobie (Jersey)	2	1	Aveley Cream Lass ..	24220	30.8.30	16	6,102	5·60	341·94	300	Jr. 4	331
			Aveley Hibiscus 3rd ..	25797	15.9.30	7½	3,383	5·22	176·67	200	Jr. 2	202
Captan J. P. Chirnside, Oakleigh (Jersey)	1	1	Werribee Fancy's Madeira 3rd	25799	25.9.30	22	7,919	5·45	431·43	300	Jr. 4	369, 424
R. M. Chirnside, Whittlesea (Jersey)	10	10	Austral Valley Gay Myrtle	23030	9.7.30	15	7,301	6.13	447.24	350	Mature	339, 398
			Austral Valley Fairy Queen	23029	16.7.30	20	6,788	6·77	459·57	300	Jr. 4	361, 419
			Queen Jessie of The Falls	17812	17.7.30	15	5,535	6·86	379·61	350	Mature	340, 425
			The Falls Air Glory ..	24817	23.7.30	17½	7,553	5·24	395·62	250	Jr. 3	333
			Austral Valley Princess Marie	21466	30.7.30	17½	6,831	5·89	402·05	350	Mature	316, 363
			Air Girlie of the Falls..	21583	1.8.30	25½	10,421	5·82	606·99	325	Sr. 4	328
			Mornmoot Majorie ..	28554	2.8.30	19½	6,209	6·14	381·47	200	Jr. 2	
			Mornmoot Modesty ..	28559	6.8.30	18	5,816	6·77	393·80	200	Jr. 2	
			Brucevale Northwood Madeira 2nd	24295	10.8.30	16½	6,998	5·88	411·77	300	Jr. 4	351
			Air Maid of the Falls..	21585	3.9.30	24	10,238	5·32	545·03	350	Mature	306, 451

* 240 days in test. † 210 days in test.

STANDARD HERD RECORDS—*continued.*

Owner.	No. completed Test.	No. Certificated.	Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Class.	Previous Yields of Butter Fat.
						lb.	lb.		lb.			
C. Chitty, Kernot .. (Jersey)	15	13	Sunbeam of Meridale ..	21754	24.8.30	5	5,970	5·38	321·42	325	Sr. 4	310, 259
			Ewelme Safrani ..	C.R.	25.8.30	14½	6,209	5·06	314·21	250	Jr. 3	242
			Meridale Golden Emblem	25303	25.8.30	11½	6,593	4·79	315·91	325	Sr. 4	250, 345
			Aveley Norma 4th ..	..	27.8.30	14	5,723	5·75	329·14	200	Jr. 2	
			Ewelme Southern Maid	28567	31.8.30	10	5,745	6·21	356·97	225	Sr. 2	294
			Ewelme Noble Beauty	28565	2.9.30	4½	4,959	5·79	287·04	225	Sr. 2	287
			Ewelme Girl ..	15467	4.9.30	17½	9,371	6·72	629·50	350	Mature	499, 572
			Aveley Attraction 6th	Vol. 18	4.9.30	10½	4,584	5·84	267·58	200	Jr. 2	
			Ewelme Master Trinket	Vol. 18	5.9.30	13½	6,176	5·50	339·98	200	Jr. 2	
			Ewelme Northern Beauty	Vol. 18	6.9.30	13½	5,403	5·71	308·53	200	Jr. 2	
			Ewelme Masters Pearl	28564	13.9.30	9	6,722	5·84	392·47	225	Sr. 2	331
			Ewelme Viola ..	Vol. 18	13.9.30	9	4,784	4·80	229·50	200	Jr. 2	
			Ewelme Gipsy Queen..	Vol. 18	14.9.30	11½	6,008	5·16	310·23	200	Jr. 2	
			Ewelme Golden Mistress	Vol. 18	14.9.30	11½	6,360	5·33	338·95	200	Jr. 2	
			Ewelme Northern Necklace	Vol. 18	14.9.30	10	6,171	6·17	380·93	200	Jr. 2	
			Ewelme Northern Briar	Vol. 18	25.9.30	10	5,795	5·94	344·50	200	Jr. 2	
W. J. Clark, Monomeith (Jersey)	4	4	Glenavon Diana ..	25803	14.7.30	20	7,578	4·68	354·60	225	Sr. 2	267
			Glenavon May Flower	28575	26.8.30	16½	6,233	5·27	328·49	200	Jr. 2	
			Koomangoonong Lady Diana	16344	28.8.30	25½	9,855	5·60	551·57	350	Mature	568, 500
			Koomangoonong Lady Betty	16343	19.9.30	16	7,430	5·08	377·52	350	Mature	413, 454
J. Clyne, Upper Maffra West (Jersey)	9	9	Jersey Vale Larkspur..	25314	17.7.30	17	6,887	5·49	378·16	275	Sr. 3	374
			Jersey Vale Laurel ..	25315	24.7.30	17	6,386	5·28	337·46	225	Sr. 2	263
			Jersey Vale Primula ..	25320	25.7.30	19	5,926	5·11	302·89	250	Jr. 3	308
			Cora 2nd of Elouera ..	13394	28.7.30	22	7,941	5·23	415·35	350	Mature	416, 425, 493
			Petaline of Paisley ..	21195	7.8.30	23	9,074	4·50	408·38	350	Mature	274, 387, 388
			Werribee Fancy Madeira 4th	25800	14.8.30	23½	8,440	5·90	498·55	275	Sr. 3	371, 471
			Paisley Coralie ..	..	18.8.30	20	5,994	5·32	318·89	200	Jr. 2	
			Paisley Bonnie ..	Vol. 18	14.9.30	18½	5,951	4·70	279·62	200	Jr. 2	
			Paisley Caroline ..	25322	19·9·30	17½	5,798	5·44	315·14	250	Jr. 3	299
W. and J. Cockbill (Cockbill Bros.), Bacchus Marsh (Ayrshire)	5	5	Fulham Blanche ..	16055	30.8.30	18	8,336	4·30	358·21	300	Jr. 4	329, 325
			Fulham Flora ..	20021	1.9.30	17½	6,177	4·69	289·74	200	Jr. 2	
			Warrook Frivol ..	20809	2.9.30	11½	6,176	4·37	269·69	200	Jr. 2	
			Fulham Vision ..	14650	6.9.30	17½	8,037	4·32	347·13	325	Sr. 4	322, 296
			Fulham Violet ..	17941	16.9.30	15	7,437	4·44	330·27	250	Jr. 3	243
W. and J. Cockbill, (Cockbill Bros.), Rockbank (Ayrshire)	3	2	Fulham Constance ..	20020	16.8.30	20	5,042	4·63	233·28	200	Jr. 2	
			*Fulham Thelma ..	16059	29.8.30	4	2,640	3·64	96·09	300	Jr. 4	219, 240
			Fulham Modest ..	20026	18.9.30	18	5,636	4·36	245·76	200	Jr. 2	
W. and J. Cockbill (Cockbill Bros.), Tongala (Ayrshire)	4	1	†Oakbank Rosetime ..	15316	14.8.30	4	4,605	3·98	183·27	350	Mature	220
			Fulham Lilian ..	17938	1.9.30	14	6,857	4·07	278·85	225	Sr. 2	
			Fulham Amelia ..	16053	16.9.30	N.O.C.	5,283	3·98	210·22	300	Jr. 4	275, 201
			Fulham May ..	20025	18.9.30	7	4,103	4·84	198·58	200	Jr. 2	
L. W. Colenso, Alvie (Jersey)	2	2	Buttercup of Hazelbrock	18665	28.6.30	18	8,235	5·29	435·99	350	Mature	331, 353
			Normandie Ilma ..	25329	5.7.30	25	9,185	5·21	478·67	250	Jr. 3	325
D. E. Cook, Loch .. (Jersey)	8	6	Wattle Vale Spring Queen	28589	20.7.30	14½	4,286	5·47	234·30	200	Jr. 2	
			Wattle Vale Prim ..	28588	26.7.30	7½	3,086	6·62	204·21	200	Jr. 2	
			Modesty of Wattle Vale	21203	28.7.30	22	8,750	5·09	445·05	350	Mature	346, 310, 374
			Round Hill Kathleen 5th Princess	23015	7.8.30	12	5,107	5·48	279·72	325	Sr. 4	307, 418
			Fairy Queen of Blackwood Valley	17418	23.8.30	11	5,354	6·46	345·86	350	Mature	312, 359, 409
			Cinderella 3rd of Wattle Vale	21200	25.8.30	25	8,930	5·01	446·99	350	Mature	346, 424, 338
			Graceful of Wattle Vale	16630	25.8.30	19½	7,431	5·74	426·73	350	Mature	348, 413, 352
			Modesta Olive ..	26309	31.8.30	17	8,000	5·86	468·74	325	Sr. 4	259, 314

* 120 days in Test. † 210 days in Test.

STANDARD HERD RECORDS—*continued.*

Owner.	No. completed Test.	No. Certificated.	Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Class.	Previous Yields of Butter Fat.
						lb.	lb.		lb.			
Jos. Cook, Toora .. (Jersey)	5	4	Charm of Blackwood Valley	17420	17.7.30	13	7,975	5·39	429·66	350	Mature	341, 378, 362
			Wood Sweet Bonnie ..	28513	18.7.30	9½	5,928	5·41	320·84	225	Sr. 2	233
			Lassie of Blackwood Valley	21205	20.7.30	7½	6,344	5·54	351·50	350	Mature	189, 281, 306
			Wood Golden Vixen ..	28592	27.7.30	12	6,664	5·56	370·82	350	Mature	184, 262, 297
			Wood Golden Eclipse	21206	4.8.30	7½	6,502	5·31	345·01	350	Mature	192, 288, 269
T. A. P. Coombes, Tongala (Jersey)	2	2	Swansea My Luck ..	28598	26.7.30	21½	8,405	4·93	414·51	275	Sr. 3	369
			Ivinghoe Patricia 2nd	28597	12.9.30	5	5,463	4·97	271·43	225	Sr. 2	203
H. A. Cooper, Trafalgar (Jersey)	4	4	Glenloch Milkmaid ..	28601	8.8.30	19½	6,965	5·18	360·55	200	Jr. 2	
			Glenloch Ranee ..	26313	13.8.30	12½	7,245	4·81	348·69	225	Sr. 2	251
			Glenloch Lady Mercedes	18671	19.8.30	15½	7,524	5·37	404·14	350	Mature	340
			Lady Linacre II. of Boorene	11228	7.9.30	13	6,504	6·44	419·02	350	Mature	359, 354, 373
C. Coughlin, Catani (Jersey)	4	1	Aveley Lettie 2nd ..	24222	10.8.30	19	7,727	4·61	355·97	350	Mature	267, 302
			*Glen Iris Nasturtium ..	18790	14.8.30	4	4,320	5·42	234·09	325	Sr. 4	331
			Def. Queen of Somerset	10142	6.9.30	14½	6,167	4·57	281·80	350	Mature	215, 225, 292
			Glady's Park Goldmine Lass	Vol. 18	6.9.30	12	3,965	4·82	191·01	200	Jr. 2	
H. Cowling, Mornington (Jersey)	1	1	Edmonton Bee ..	25816	5.7.30	15½	5,133	6·40	328·55	225	Sr. 2	268
A. Cox, Mt. Scobie (Jersey)	11¼	9	Tavistock Viola ..	C.R.	28.6.30	18	6,486	5·17	335·43	275	Sr. 3	
			Tavistock Vanilla's Maid	10183	10.7.30	24½	7,296	5·21	379·81	350	Mature	387
			Honesty of Tavistock	21211	13.8.30	21	8,186	5·67	464·42	350	Mature	348
			Tavistock Madame ..	Vol. 18	28.8.30	11	5,871	5·08	298·10	200	Jr. 2	
			Peerless Clarionette of Rosevale	11320	30.8.30	13	8,612	4·81	414·39	350	Mature	313
			Peerless 2nd of Paradise	16763	4.9.30	17	7,071	4·53	320·54	350	Mature	336
			Tavistock Maid ..	10180	7.9.30	19	8,307	4·43	368·16	350	Mature	352
			Tavistock Sally ..	Vol. 18	9.9.30	8½	4,091	5·06	207·08	200	Jr. 2	
			Tavistock Patricia ..	23053	22.9.30	17	8,101	5·25	424·92	350	Mature	404
			Tavistock Bonnie ..	28605	26.9.30	12	5,733	4·86	278·73	200	Jr. 2	
			†Tavistock Lady ..	Vol. 18	26.9.30	4	3,495	3·91	136·70	200	Jr. 2	
E. Crawford, Traralgon (Jersey)	2	2	Xavier Handsome Girl	Vol. 18	22.7.30	21	7,334	5·43	398·33	200	Jr. 2	
			Warenda La Charme 4th	25560	21.9.30	15	6,748	5·87	396·22	275	Sr. 3	323
E. E. Davis, Bass (Jersey)	2	1	*Bonnie Brae Maisie ..	Vol. 18	31.7.30	4	3,005	6·17	185·44	225	Sr. 2	237
			Blackwood Grove Myrtle	28920	14.9.30	5½	6,101	5·18	316·24	225	Sr. 2	225
J. Dee, Clyde North (Jersey)	3	2	St. John's Olivine ..	Vol. 18	9.8.30	13	5,321	5·95	316·81	200	Jr. 2	
			Clyde Vale Constance	28907	19.8.30	8½	3,219	6·09	196·10	225	Sr. 2	
T. G. Dellar, Portland (Jersey)	1	1	*Brina Lady Myrtle ..	28911	3.8.30	4	5,745	5·15	296·13	200	Jr. 2	
N. C. De La Rue, Weering (Jersey)	2	2	Silver of Wyndarra ..	18462	1.7.30	6	8,442	5·18	437·48	350	Mature	296, 417, 430
			Ella of Colac ..	14981	30.8.30	15½	7,130	5·00	356·67	350	Mature	441, 407, 439
Department of Agriculture, Burnley (Friesian)	1	1	Vic. Tinkle Bell ..	3266	8.9.30	9	6,651	3·93	261·45	250	Jr. 3	
Department of Agriculture, Werribee (Friesian)	7	7	Vic. Domino Patch ..	3255	10.7.30	34½	10,835	3·53	382·13	225	Sr. 2	
			Vic. Top Patch ..	2634	11.7.30	11	11,781	3·38	397·66	325	Sr. 4	202, 318
			Vic. Keelrow ..	3260	17.7.30	20	8,046	3·76	302·54	225	Sr. 2	
			Vc. Ilka Tinkle ..	3257	10.8.30	28	9,645	3·45	332·74	225	Sr. 2	
			Vic. Songbell ..	1708	14.8.30	55½	19,089	2·99	571·21	350	Mature	362, 549, 537
			Vic. Piebe	3262	23.8.30	28	13,610	2.85	387·67	325	Sr. 4	413, 401
			Vic. Joyous Piebe ..	3259	11.9.30	32½	10,501	3·62	380·79	200	Jr. 2	

* 240 days in test. † 150 days in test.

STANDARD HERD RECORDS—*continued.*

Owner.	No. completed Test.	No. Certificated.	Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Class.	Previous Yields of Butter-Fat.
						lb.	lb.		lb.			
Department of Agriculture, Werribee (Red Poll)	16	15	Vic. Bright Eye ..	788B	4.7.30	23	9,887	4·83	477·69	350	Mature	446, 466, 432
			Vic. Rebel	2333A	13.7.30	17½	7,252	4·50	326·61	200	Jr. 2	
			Vic. Joan of Arc ..	1244B	14.7.30	22	11,743	4·25	499·27	350	Mature	354, 443, 569
			Vic. Crevass ..	2312A	23.7.30	16	6,038	4·82	290·80	200	Jr. 2	
			Vic. Nectar	1665A	5.8.30	13	7,245	4·20	304·18	275	Sr. 3	353
			Vic. Cutty Sulu ..	1284C	15.8.30	16	9,866	4·36	430·50	350	Mature	428, 385, 459
			Vic. Ghazal	2320A	20.8.30	16	5,843	4·33	252·79	200	Jr. 2	
			Vic. Ghetto	1656A	29.8.30	26	10,094	4·08	411·77	350	Mature	316, 435, 395
			Vic. Velvet Curl ..	1521A	29.8.30	11½	7,271	4·64	337·25	275	Sr. 3	334
			Vic. Fey	1155A	4.9.30	32½	14,043	3·52	493·78	350	Mature	312, 349, 508, 460
			Vic. Bellalae.. ..	2304A	4.9.30	15	5,585	4·51	252·08	200	Jr. 2	
			Vic. Braemar ..	2429B	6.9.30	16	6,911	4·17	288·21	225	Sr. 2	
			Vic. Tinka Bell ..	2434B	6.9.30	6	4,071	4·28	174·24	225	Sr. 2	
			Vic. Royal Divorce ..	2335A	10.9.30	17	5,768	4·19	241·77	225	Sr. 2	
			Vic. Picquette ..	1668A	17.9.30	26½	10,512	3·96	416·26	325	Sr. 4	327, 385
			Vic. Eagle	2315A	19.9.30	14½	5,865	5·08	298·11	225	Sr. 2	
J. J. Desmond, Rochester (Jersey)	5	5	Waratta Edna Bell ..	28660	15.7.30	21½	7,679	5·32	408·71	225	Sr. 2	383
			Preston Fern Dell ..	25355	21.7.30	11	6,846	4·97	340·32	275	Sr. 3	241
			Waratta Ellen Bell ..	28661	28.7.30	20	8,589	5·18	444·90	225	Sr. 2	392
			Belgonia Peggy 7th ..	Vol. 18	3.9.30	19	6,273	4·97	311·58	200	Jr. 2	
			Preston Farm Lass ..	25354	14.9.30	29	10,638	4·89	520·49	300	Jr. 4	327, 366
de Soyers Bros., Kyabram (Jersey)	2	2	Glencara Vanity ..	24327	29.6.30	15½	6,201	5·21	323·00	250	Jr. 3	
			Swansea Peggy ..	23089	2.7.30	20	8,006	6·11	488·96	325	Sr. 4	
Dickenson Bros., Sebastopol (Friesian)	1	1	Ashby Queenie 6th ..	2347	8.7.30	28	10,026	3·83	384·03	325	Sr. 4	295
R. J. M. Dobson, Acheron (Jersey)	8	8	Sycamore of Green Meadows	17449	20.7.30	18	8,817	4·99	439·72	350	Mature	427, 487
			Sunshine of Green Meadows	17448	22.7.30	17½	8,066	5·03	405·93	350	Mature	379, 461
			Wattle Grove Sunflower	25845	2.8.30	19½	8,282	5·63	465·90	225	Sr. 2	387
			Pine Grove Julia ..	28382	20.8.30	18	7,031	4·85	340·73	200	Jr. 2	
			Wattle Grove Precious Pet	25843	5.9.30	18½	7,022	4·66	326·94	300	Jr. 3	337
			Wattle Grove Juanita	28665	14.9.30	19	6,386	5·30	338·70	200	Jr. 2	
			Wattle Grove Judith ..	28666	16.9.30	14½	5,415	5·42	293·47	200	Jr. 2	
			Wattle Grove Junee ..	23110	30.9.30	13½	8,378	5·19	434·62	300	Jr. 4	320, 400
Dookie Agricultural College, Dookie (Ayrshire)	1	..	Dookie Sophie ..	17780	3.8.30	Noc.	7,049	3·87	272·76	325	Sr. 4	316, 311
L. G. Dowel, Jumbunna (Jersey)	3	2	Woorayl Thrice Queen	28361	28.7.30	13	4,021	5·77	231·87	200	Jr. 2	
			Bud of Linga Longa..	13698	10.8.30	19	7,752	5·82	451·48	350	Mature	305, 302, 355
			Milklass 3rd of Belgonia	21492	28.8.30	10½	6,497	4·99	324·21	350	Mature	399, 495
A. F. Dowie, Carisbrook) (Jersey)	2	2	Glendale Beauty ..	26401	25.7.30	12	6,345	5.03	319·01	275	S. 3	
			Balcairn Lady ..	..	18.8.30	21	7,931	5·30	420·30	200	Jr. 2	
Ducat and Sons, Ardmona (Jersey)	5	5	Gold Drop of Brookside	9366	10.7.30	13½	7,946	4·80	381·45	350	Mature	395
			Airlie Pansy ..	28674	23.8.30	11	6,395	4·82	308·27	225	Sr. 2	
			Airlie Beatrice 2nd ..	Vol. 18	17.9.30	10	5,114	5·87	300·42	200	Jr. 2	
			Airlie Rose	Vol. 18	17.9.30	10	5,290	6·51	344·30	250	Jr. 3	
			Buttercup 3rd of Airlie	18695	21.9.30	..	9,224	5·32	490·96	350	Mature	306, 388, 422
Dunbar Bros., Carlsruhe (Friesian)	2 ..	.. ..	Wimmera Wildrose .. Wimmera Mona ..	.. 2331	18.9.30 18.9.30	8½ 15½	5,490 9,590	3·14 3·31	172·52 317·10	200 350	Jr. 2 Mature	291, 332

STANDARD HERD RECORDS—*continued.*

Owner.	No. completed Test.	No. Certificated.	Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Class.	Previous Yields of Butter Fat.
						lb.	lb.		lb.			
G. Dwyer, Balwyn.. (Jersey)	1	1	Karalee Zoe ..	..	23.8.30	13	5,335	5·11	272·68	200	Jr. 2	
T. J. Edwards, Myrtlebank (Jersey)	1	1	Dahlia of Grangelea ..	18595	29.6.30	23½	7,920	5·24	415·25	350	Mature	310
A. J. Eldridge, Noorat (Friesian)	1	1	*St. Albans Cordyline..	2590	13.7.30	4	7,500	3·72	278·67	275	Sr. 3	321, 331
Elliott and Farr .. (Jersey)	1	..	Banyule Intermezzo ..	Vol. 18	10.7.30	8½	3,532	4·99	176·39	200	Jr. 2	
A. E. Ellis, Archie's Creek (Jersey)	12	12	Blackwood Grove Gaymite	Vol. 18	1.7.30	9	4,288	6·07	260·49	200	Jr. 2	
			Blackwood Grove Beatrice 2nd	23119	27.7.30	13	6,844	5·83	398·76	350	Mature	274, 325, 248
			Blackwood Grove Bonnie	28683	1.8.30	10	7,108	5·25	373·34	325	Sr. 4	256, 284, 294
			Beatrice of Holbrook..	12903	3.8.30	13	7,434	4·93	366·63	350	Mature	413, 453, 376
			Noble Guitar 4th of Banyule	21433	5.8.30	10	5,187	5·39	279·49	275	Sr. 3	233, 258
			Bonnie Brae Mignon ..	30653	8.8.30	15	7,779	5·19	403·77	350	Mature	353, 326
			Woorayl's Vanity Butter Queen	25711	9.8.30	12½	5,432	5·91	321·18	225	Sr. 2	262
			Aveley Starbright 2nd	22955	12.8.30	12	5,469	7·75	423·97	325	Sr. 4	
			Nellie of Blackwood Grove	18702	14.8.30	15½	8,267	5·35	442·28	350	Mature	350, 431, 385
			Glen Iris Northern Rose	28686	26.8.30	17	7,285	5·74	418·40	275	Sr. 3	297, 362
			Blackwood Grove Sweet Surprise	24347	17.9.30	14½	7,175	6·67	478·73	325	Sr 4.	356, 369
			Mignonette 3rd of Brookfield	14232	26.9.30	17	7,878	4·48	352·59	350	Mature	299, 308
A. E. Enders, Stanhope (Friesian)	5	4	St. Orams Gem ..	2319	17.7.30	17	12,143	3·74	453·97	350	Mature	332, 415, 455
			*Burnbank Segis Delhurst	2391	26.7.30	4	8,625	3·57	308·07	350	Mature	219, 259, 332
			Eurobin Oakwood Eclipse	C.R.	10.8.30	33	11,597	3·40	394·67	250	Jr. 3	361
			Burnbank Pietertji Bainfield	3037	14.8.30	18	11,290	3·54	399·81	350	Mature	382, 426, 462
			Burnbank Alcartra Girl	2692	29.8.30	41	13,226	3·29	434·49	325	Sr. 4	309, 327, 456
N. H. Enders, Stanhope (Jersey)	8	8	The Wattles Fairy	25869	24.7.30	24	8,684	5·48	476·25	225	Sr. 2	403
			The Wattles Molly ..	Vol. 16	25.7.30	21	6,308	5·60	353·47	200	Jr. 2	
			The Wattles Myra's Choice	25870	31.7.30	14	8,282	6·05	501·25	225	Sr. 2	405
			The Wattles Duchess Choice	25868	27.8.30	21	7,502	5·92	444·11	225	Sr. 2	405
			Odense Larkspur ..	28921	8.9.30	17	9,192	5·18	475·71	275	Sr. 3	329, 362
			Arishma Joyful ..	Vol. 19	17.9.30	28	9,929	4·74	470·74	200	Jr. 2	394
			Molly 18th of Banyule	14193	17.9.30	26	10,449	5·44	567·92	350	Mature	392, 478, 373
			Seville of Kelburn ..	12074	23.9.30	29	10,380	5·77	598·62	350	Mature	578, 619
G. Esler, Tongala (Jersey)	9	8	Maiwand Stockings ..	25882	19.7.30	22	8,019	6·27	502·89	225	Sr. 2	376
			Maiwand Princess ..	23128	23.7.30	8½	6,303	5·21	328·67	325	Sr. 4	208, 356, 353
			Maiwand Violet ..	25884	23.7.30	17	6,956	5·45	379·01	250	Jr. 3	300
			Maiwand Floss ..	25878	28.7.30	23½	9,048	5·05	456·89	275	Sr. 3	321, 350
			Daisy 3rd of Ballara ..	17502	16.8.30	26	9,893	4·96	490·47	350	Mature	448, 427, 461
			Flower 2nd of Ballara	18997	26.8.30	16	7,599	4·92	374·10	350	Mature	358, 417, 292
			Maiwand Aster ..	28687	30.8.30	18½	6,765	5·15	348·67	200	Jr. 2	
			Maiwand Blossom ..	17426	20.9.30	4½	7,586	4·46	337·74	350	Mature	392, 330, 321
			Maiwand Bloom ..	25874	22.9.30	Noc.	7,065	4·66	329·24	300	Jr. 4	343, 319

* 240 days in Test.

STANDARD HERD RECORDS—*continued.*

Owner.	No. completed Test.	No. Certificated.	Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Class.	Previous Yields of Butter Fat.
						lb.	lb.		lb.			
A. Evans, Heywood (Jersey)	7	5	Velveteen 11th of Banyule	21438	30.7.30	11½	5,989	5·28	316·21	300	Jr. 4	426
			Rosemont Peerless 3rd	Vol. 18	31.7.30	13	5,411	5·76	311·55	200	Jr. 2	
			Confrey of Springhurst	16332	3.8.30	15	8,840	4·30	380·34	350	Mature	432, 459, 439
			Boronia Farm Pearl ..	28694	3.8.30	11½	4,175	5·20	217·21	200	Jr. 2	
			Alfalfa of Springhurst..	14237	20.8.30	20	8,550	5·19	444·04	350	Mature	341, 438, 426
			*Boronia Farm Virginia	23130	20.8.30	4	2,145	4·52	96·85	275	Sr. 3	189, 176
			Murndale Chalcedony..	29549	20.9.30	Noc.	4,139	5·04	208·65	225	Sr. 2	
Fairchild and Clutterbuck, Tinambra (Jersey)	1	1	Pansy of Enterprise ..	16764	5.8.30	19	7,255	5·93	430·35	350	Mature	334, 339
T. R. Findlay, Leitchville (Jersey)	9	9	Leven Brae Queenie ..	Vol. 18	6.8.30	20	6,530	6·47	422·69	200	Jr. 2	
			L.B. Masterpieces Dulcie	23137	10.8.30	21	8,877	4·85	430·63	325	Sr. 4	307, 318, 396
			Leven Brae Gaiety ..	Vol. 18	20.8.30	15	5,916	5·42	320·38	200	Jr. 2	
			Leven Brae Gay Princess	C.R.	20.8.30	16	5,601	4·84	271·24	200	Jr. 2	
			Leven Brae Gay Peeress	Vol. 18	26.8.30	16	5,372	6·04	324·26	225	Sr. 2	248
			Leven Brae Gay Peeress II.	Vol. 16	28.8.30	16½	6,087	6·01	365·71	225	Sr. 2	276
			Leven Brae Gay Lady	28926	29.8.30	21	7,788	4·51	351·03	225	Sr. 2	272
			Leven Brae Gay Countess	Vol. 18	29.8.30	19	7,190	4·75	341·69	225	Sr. 2	247
			Leven Brae Gay Rose	Vol. 18	9.9.30	19	5,902	5·37	317·15	200	Jr. 2	
			Twylish Countess of Leven Brae	16641	9.9.30	15	8,022	4·36	349·89	350	Mature	317, 299, 322
A. Fisken, Lal Lal, Yendon (M. Shorthorn)	3	1	Morven Cressida 22nd	Vol. 1	9.8.30	16½	7,205	3·91	281·69	275	Sr. 3	282
			Morven Cressida 28th	Vol. 1	5.9.30	8	4,764	4·05	193·11	225	Sr. 2	189
			Morven Queenie 20th..	Vol. 1	18.9.30	5½	5,453	4·00	218·37	300	Jr. 4	209
A. Fixter, Boisdale.. (Guernsey)	1	1	Runica's Jessie ..	2163	2.9.30	18½	7,725	6·10	471·11	225	Sr. 2	382
W. Fixter, Boisdale (Jersey)	1	1	Studleigh Vanilla 2nd..	25296	16.9.30	15	7,710	5·81	448·29	275	Sr. 3	385
Foster Bros., Boisdale (Jersey)	6	5	Noble's Queen of Avalon	16603	7.7.30	9½	4,760	6·10	290·44	350	Mature	208, 294, 333
			Boisdale Heather ..	C.R.	12.7.30	9	3,462	6·13	212·20	200	Jr. 2	
			Boisdale Brunette 2nd	28699	15.7.30	9½	4,013	6·04	242·41	200	Jr. 2	
			Nightshade II. of Springhurst	14255	15.7.30	16½	8,349	6·44	537·73	350	Mature	394, 417, 470
			Maiwand Fuchia ..	Vol. 16	29.7.30	14½	5,159	4·97	256·64	200	Jr. 2	
			Boisdale Madeira ..	28701	5.9.30	7½	4,700	5·21	244·68	200	Jr. 2	
G. A. Fraser, Addington (Ayrshire)	2	2	River Glen Pearl ..	16567	11.9.30	23	7,949	3.99	317·03	300	Jr. 4	293
			Craigielea Laura ..	17684	18.9.30	16½	7,307	4·35	317·87	250	Jr. 3	311
P. A. Freestone, Murchison (Jersey)	2	2	Melba of Jerseyvale ..	21542	12.7.30	13	6,837	6·24	426·44	350	Mature	170
			Romany Lass of Belgonia	17800	18.8.30	19	8,595	4·80	412·49	350	Mature	496, 489, 537
S. R. Fuller, Tongala (Jersey)	1	1	Esperance Joy Bell ..	24376	20.8.30	21	7,915	5·49	434·72	273	Sr. 3	
Mrs. E. M. Gange, Werribee (Ayrshire)	6	4	Roseleigh Petal ..	20698	4.7.30	19	7,274	4·03	293·12	200	Jr. 2	
			Roseleigh Bright ..	18892	7.7.30	10	6,416	4·54	291·10	250	Jr. 3	
			Roseleigh Dorothy ..	20693	22.7.30	20	8,616	4·19	361·12	300	Jr. 4	267
			†Roseleigh Rarity ..	20701	23.7.30	4	5,250	4·13	216·59	275	Sr. 3	
			Roseleigh Petunia ..	20699	24·8·30	9	7,242	3·80	275·06	300	Jr. 4	244, 246
			Roseleigh Irene ..	20695	25.8.30	17½	8,791	3·91	343·72	300	Jr. 4	275

* 120 days in Test. † 210 days in Test.

STANDARD HERD RECORDS—*continued.*

Owner.	No. completed Test	No. Certificated.	Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Class.	Previous Yields of Butter Fat.
						lb.	lb.		lb.			
J. L. Gardener, Welshpool (Jersey)	6	6	Lauriston Charming Belle	24356	6.8.30	13½	6,400	5·24	335·43	275	Sr. 3	283, 215
			Lauriston Showshoe Duchess	25893	13.8.30	12½	5,628	5·28	296·98	225	Sr. 2	257
			Lauriston Cream Belle	24357	23.8.30	13½	6,846	4·86	332·62	275	Sr. 3	291, 244
			Lauriston Butter Belle	28704	10.9.30	8	4,950	5·08	251·40	200	Jr. 2	
			Lauriston Brown Duchess	18720	20.9.30	14	7,168	5·07	363·61	350	Mature	248, 294, 239
			Lauriston Lady Twylish	25891	25.9.30	12	6,642	4·55	302·01	225	Sr. 2	249
Mrs. M. S. Gardiner, (Jersey)	2	..	*Latrobe Starfinch 2nd	24401	20.7.30	4	4,785	5·19	248·49	275	Sr. 3	321
			Lily's Maid of Comely Banks	13348	20.9.30	9½	5,993	5·14	308·02	350	Mature	313, 318, 403
R. G. Gay, North Devon (Jersey)	6	6	Dairymaid 5th of Waterloo Farm	17743	13.8.30	30	10,040	4·58	459·94	350	Mature	431, 422
			Elm Grove Silver Belle	23159	14.8.30	12½	6,839	6·18	422·96	275	Sr. 3	296, 338
			Linda 63rd of Kingsvale	18672	16.8.30	26	10,292	4·93	507·66	350	Mature	428
			Elm Grove Dairymaid	25899	17.8.30	16	4,788	5·47	261·98	250	Jr. 3	280
			Elm Grove Blue Bell	Vol. 18	11.9.30	11½	5,390	5·83	314·19	200	Jr. 2	
			Clarendon Eyre V.C. Alfalfa	29629	24.9.30	13½	6,681	5·31	354·96	300	Jr. 4	316, 381
Gibson Bros., Trafalgar (Jersey)	9	7	Leathorne Cream Belle	24363	8.7.30	23	6,903	5·58	385·50	250	Jr. 3	305
			Peerless of Leathorne	11429	7.9.30	12	4,986	5·94	296·10	350	Mature	311, 316, 308
			Leathorne Creamy 2nd	24364	10.8.30	14	5,548	5·76	319·75	325	Sr. 4	278
			Old Gold of Glen Iris	16681	19.8.30	15½	6,078	6·27	380·89	350	Mature	307, 306, 398
			Glen Iris Ginger Lady	25550	21.8.30	N.O.C.	6,369	5·65	359·92	275	Sr. 3	363, 394
			Leathorne Lilac 2nd	C.R.	22.9.30	12½	6,129	4·76	292·01	200	Jr. 2	
			Leathorne Mercedes Buttercup	C.R.	23.9.30	10½	4,334	4·97	215·29	200	Jr. 2	
			Leathorne Minnehaha	C.R.	23.9.30	9½	4,589	7·01	321·56	250	Jr. 3	273
			Maid 2nd of Linden	8437	25.9.30	18½	9,236	4·76	439·49	350	Mature	
A. W. Gorman, Alexandra (Ayrshire)	8	7	Madge of Cathcart	11078	29.7.30	17	8,426	4·03	339·37	350	Mature	339, 304, 308
			Cathcart Bright	14840	3.8.30	27	11,014	4·25	467·83	350	Mature	289, 357, 383
			Catchart Ladylove	17491	26.8.30	14½	6,477	4·14	268·44	225	Sr. 2	268
			Maisie of Cathcart	11079	27.8.30	10½	9,333	3·92	365·47	350	Mature	283, 306, 385
			Cathcart Dainty	15864	28.8.30	10	8,258	4·05	334·70	300	Jr. 4	219, 297
			Cathcart Merl	17495	20.9.30	25	9,603	3·71	356·58	250	Jr. 3	250
			Muriel of Cathcart	13522	21.9.30	26	10,028	4·98	499·45	350	Mature	298, 403, 370
			Cathcart Marge	17493	24.9.30	20	8,087	4·08	329·85	250	Jr. 3	237
F. W. Gread, Tongala (Jersey)	1	1	Swansea Daphne 4th	24375	21.7.30	6	5,224	5·48	286·44	275	Sr. 3	261, 254
E. Hall, Tongala (Jersey)	1	..	Melwood Rosella	C.R.	14.7.30	9½	3,881	5·19	201·56	225	Sr. 2	
J. E. Handbury and Sons, Toora (Jersey)	12	11	Tooravale May 2nd	23189	28.6.30	17½	6,323	5·20	328·83	275	Sr. 3	281, 410
			Tooravale Lassie 4th	28730	11.7.30	9	4,806	5·72	274·78	200	Jr. 2	
			Tooravale Lassie 6th	28732	2.8.30	8	3,552	5·01	177·92	200	Jr. 2	
			Tooravale Milkmaid 3rd	25906	22.8.30	7½	4,556	6·14	279·79	250	Jr. 3	237
			Tooravale Lassie 2nd	25904	30.8.30	15½	7,068	6·37	449·88	300	Jr. 4	310, 408
			Lassie of Tooravale	18727	1.9.30	17	6,722	5·41	363·55	350	Mature	336, 336, 381
			*Tooravale Princess 5th	28739	3.9.30	4	8,400	5·45	457·70	200	Jr. 2	
			Tooravale Lassie 3rd	25905	5.9.30	15½	5,898	5·61	331·15	225	Sr. 2	243
			Tooravale Lassie 5th	28731	14.9.30	10	4,833	6·15	297·30	200	Jr. 2	
			Tooravale Starleigh 3rd	25909	23.9.30	4	5,606	6·36	356·55	250	Jr. 3	261
			Tooravale Mailkmid 4th	28736	24.9.30	4	4,791	5·74	274·96	200	Jr. 2	
			Princess of Tooravale	18730	25.9.30	13	8,744	5·62	491·34	350	Mature	347, 528, 556
S. C. Handley, Dandenong (Jersey)	1	1	Sunbeam of Enterprise	19021	3.7.30	20½	7,273	5·39	392·20	350	Mature	417, 440

* 240 days in test.

STANDARD HERD RECORDS—*continued.*

Owner.	No. completed Test.	No. Certificated.	Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Class.	Previous Yields of Butter Fat.
						lb.	lb.		lb.			
Miss K. Harrison, Frankston (Jersey)	2	1	Francie of Somerville..	15501	5.9.30	15	5,422	5·84	316·79	350	Mature	296, 337, 314
			Walhundry Delta Francie	25915	14.9.30	14½	5,307	5·24	278·01	275	Sr. 3	248
T. Harvey, Boisdale (Jersey)	4	4	Empress 4th of Jerseyholm	13356	23.7.30	19	7,436	5·01	372·42	350	Mature	383, 385, 405
			Jerseyholm Empress 15th	25400	23.7.30	18	6,713	5·36	359·83	200	Jr. 2	
			Blue Bell 3rd of Jerseyholm	9391	8.8.30	14	6,815	5·60	381·77	350	Mature	556, 446, 415
			Lady Marge 5th of Jerseyholm	16652	26.8.30	26	9,485	6·35	601·91	350	Mature	427, 542, 489
E. P. Hayes, Loch (Jersey)	4	4	Cosmos Golden Star ..	25402	12.8.30	16	5,511	6·13	337·67	225	Sr. 2	
			Cosmos Jean ..	24387	13.9.30	11	5,814	5·57	323·79	300	Jr. 4	
			Cosmos Kitty ..	25403	20.9.30	12	5,096	5·42	276·25	225	Sr. 2	
			Glenburnie Daffodil ..	C.R.	26.9.30	18	6,281	5·95	373·97	200	Jr. 2	
D. Harker, Caldermeade (Ayrshire)	3	1	Stella of Thirlmere ..	12212	15.7.30	23½	9,021	4·23	382·00	350	Mature	267, 262, 341
			Coral of Thirlmere ..	12210	15.7.30	11½	5,625	3·62	203·41	350	Mature	191, 176, 219
			*Thirlmere Charm ..	16842	13.8.30	4	5,475	3·92	214·58	275	Sr. 3	216, 237
Harker, W. T., Caldermeade (Ayrshire)	3	2	Coulcraggie Mulberry	14634	11.7.30	4	5,757	4·74	272·95	350	Mature	212
			Sparrovale Violet ..	18935	5.8.30	12½	6,227	4·21	262·01	250	Jr. 3	233
			Beauwarrin Marjorie ..	17326	3.9.30	6½	5,967	3·96	236·39	225	Sr. 2	204
C. W. Harris, Merino (Jersey)	3	..	Dahlia 2nd of Springhurst	14243	8.8.30	10	5,435	5·15	280·08	350	Mature	333, 333, 345
			Willis Vale Mystic Empress	29299	10.8.30	8	4,211	5·46	230·01	300	Jr. 4	229
			Lady Monica 20th of King's Vale	18601	10.8.30	11½	5,536	5·03	278·21	350	Mature	334, 355, 350
J. W. Harris, Clyde.. (Jersey)	2	1	St. John's Jewel 7th ..	25781	12.7.30	18½	6,791	4·59	311·84	350	Mature	
			Dingley Dell Petal ..	28747	31.7.30	12	4,449	6·28	279·57	200	Jr. 2	
W. Henderson, Grasmere (Home Farm) (Ayrshire)	15	8	Brownie 6th of Carracoorte	9327	11.7.30	13	6,329	4·21	266·74	350	Mature	353, 307, 341
			Carracoorte Sparkle 5th	17479	24.7.30	13	8,427	5·14	433·52	350	Mature	283, 288, 345
			Bellona 4th of Carracoorte	13594	9.8.30	7	8,577	4·79	410·96	350	Mature	420, 402, 438
			Carracoorte Viola 9th..	17483	26.8.30	23	8,039	4·83	388·09	325	Sr. 4	466
			Viola 4th of Carracoorte	9454	1.9.30	18½	8,069	4·12	332·47	350	Mature	437, 418, 412
			Minervas Balm 7th of Carracoorte	13628	2.9.30	18	8,103	4·20	340·40	350	Mature	128, 373, 424
			Gertrude of Carracoorte	9374	5.9.30	21	8,158	4·44	362·00	350	Mature	394, 410, 414
			Sparrovale Buttercup..	16646	5.9.30	14	7,133	4·50	320·78	325	Sr. 4	269, 290
			Lillian 4th of Carracoorte	13623	5.9.30	22	8,256	4·00	330·39	350	Mature	270, 299, 394
			*Sparrovale Daffodil ..	16652	15.9.30	4	6,405	4·30	275·61	300	Jr. 4	291
			Carracoorte Iris 11th..	19696	19.9.30	18½	6,248	4·00	249·70	200	Jr. 2	
			Carracoorte Brownie 18th	19685	22.9.30	N.O.C.	4,790	3·96	189·85	200	Jr. 2	
			Carracoorte Viola 11th	17485	22.9.30	12	6,314	4·32	272·69	250	Jr. 3	283
			Carracoorte Rosebloom 14th	19702	22.9.30	17½	6,384	3·72	237·70	200	Jr. 2	
			Carracoorte Bellona 11th	19680	26.9.30	17	6,341	3·58	226·77	200	Jr. 2	
W. Henderson, Grasmere (Share Farm) (Ayrshire)	5	..	*Carracoorte Lucy 11th	19699	11.7.30	9	4,080	4·69	191·51	200	Jr. 2	
			Coral 9th of Carracoorte	13612	2.9.30	7	6,408	4·16	266·56	350	Mature	233, 336, 226
			Carracoorte Minnie 5th	17473	4.9.30	6½	5,849	4·71	275·45	300	Jr. 4	289
			*Carracoorte Iris 7th ..	17465	12.9.30	4	4,995	4·00	199·63	350	Mature	202, 171, 239
			†Blanche 2nd of Carracoorte	13600	16.9.30	4	3,405	4·54	154·42	350	Mature	194, 219, 264

* 240 days in test. † 180 days in test.

STANDARD HERD RECORDS—*continued.*

Owner.	No. completed Test.	No. Certificated.	Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Class.	Previous Yields of Butter Fat.
						lb.	lb.		lb.			
L. J. Herd, Heidelberg (Jersey)	6	6	Aria of Banyule ..	18802	15.7.30	27½	9,143	5·40	493·32	325	Sr. 4	368, 410
			Aveley Silvermine 3rd	25412	4.8.30	20	6,795	5·59	379·63	225	Sr. 2	323
			Aveley Emmaline ..	22950	20.8.30	22½	8,468	5·02	424·94	350	Mature	258, 366
			Aveley Lettie 5th ..	25409	2.9.30	18½	7,004	4·71	329·86	225	Sr. 2	230
			Aveley Melista ..	25410	9.9.30	20	7,492	5·11	383·05	250	Jr. 3	301
			Norma of Terara ..	11505	19.9.30	21½	10,305	5·17	532·89	350	Mature	454, 593, 489
L. W. C. Holbing, Tongala (Jersey)	8	7	Queen Bee of Holmwood Park	13801	9.8.30	17½	8,570	4·38	375·18	350	Mature	422, 384
			Eildon Actress 2nd ..	25943	18.8.30	14	5,127	6·04	309·85	225	Sr. 2	300
			Daisy 3rd of Rosemont	18853	20.8.30	10½	7,089	5·73	405·90	350	Mature	376
			Laura 3rd of Rosemont	17760	23.8.30	10½	6,945	4·65	322·80	350	Mature	403, 388
			Eildon Actress ..	23214	13.9.30	5	6,945	5·96	413·67	300	Jr. 4	244
			Eildon Choice Queen ..	25944	13.9.30	14	8,458	4·98	420·98	250	Jr. 3	350
			Jenny Lind 2nd of Rosemont	15551	14.9.30	10½	7,448	5·39	401·23	350	Mature	370, 488, 444
			Eildon Vanilla ..	23215	19.9.30	13½	7,181	5·14	369·18	275	Sr. 3	220
J. M. Hopkins, Yinnar (Jersey)	3	3	Camelia's Joy of Linga Longa	17695	23.8.30	11	7,074	6·82	482·34	350	Mature	368
			Daisy of Linga Longa ..	12868	26.8.30	29	9,819	5·41	531·62	350	Mature	258, 328, 394
			Latrobe Countess 2nd	25411	29.8.30	21½	7,946	4·89	388·65	250	Jr. 3	257
L. G. Hore, Horefield (Milking Shorthorn)	2	..	Coquette of Aralabrad	Vol. 8	1.9.30	8½	6,427	3·96	254·75	275	Sr. 3	
			*Melba of Kimo ..	..	15.9.30	4	2,243	4·51	101·11	250	Jr. 3	
A. Hubbard, Yarra Glen (Ayrshire)	6	3	Emoh Ruo Lotus ..	15978	1.8.30	13½	6,345	4·45	282·55	275	Sr. 3	225
			Daisy of the Curragh ..	7670	1.8.30	14½	7,589	3·93	298·57	350	Mature	332, 249, 315
			Emoh Ruo Belle ..	19920	9.8.30	11	5,036	4·44	223·69	200	Jr. 2	
			Emoh Ruo Adorn ..	17842	23.8.30	8	5,249	4·43	232·52	225	Sr. 2	
			Emoh Ruo Viola ..	17845	6.9.30	10½	5,844	4·14	241·91	250	Jr. 3	
			†Emoh Ruo Countess ..	17843	20.9.30	7	4,943	3·91	193·13	275	Sr. 3	124
J. A. Huffer, Gormandale (Jersey)	15	15	Glen Valley Quick Sand	23218	10.7.30	24½	7,919	5·81	459·80	300	Jr. 4	331, 471
			Glen Valley Cream Rose	28760	23.7.30	17	6,338	5·00	317·02	200	Jr. 2	
			Glen Valley Rosebloom	25431	27.7.30	15	5,177	6·26	324·30	225	Sr. 2	270
			Glen Valley Silver Bell	25432	30.7.30	21	7,247	5·94	430·70	225	Sr. 2	352
			Glen Valley Waverley Lass 2nd	24405	11.8.30	20½	7,443	6·13	455·93	230	Jr. 4	353, 394
			Glen Valley Sand Girl	24404	22.8.30	16½	6,996	5·80	405·75	275	Sr. 3	307, 342
			Coral Sand of Glen Valley	21355	28.8.30	17½	8,762	4·73	414·17	325	Sr. 4	272, 308, 387
			Verbena of Glen Valley	21360	1.9.30	22	9,194	5·70	524·04	350	Mature	338, 421, 510, 530
			Glen Valley Fancy Girl	28981	2.9.30	10	4,787	5·82	278·58	200	Jr. 2	
			Glen Valley Verbena 2nd	25433	10.9.30	14½	6,915	5·37	371·31	250	Jr. 3	325
			Rosebud 2nd of Paradise	13798	12.9.30	26	9,833	5·49	539·67	350	Mature	399, 401, 418, 524, 518
			Silversand of Glen Valley	18756	17.9.30	17½	8,012	5·35	428·55	350	Mature	359, 446, 472, 490
			Waverley Lass of Glen Valley	21361	18.9.30	19	7,185	5·06	363·32	350	Mature	290, 341, 361
			Wompino Ma Mie Rosette	28985	21.9.30	12½	6,333	5·04	319·15	200	Jr. 2	
			Rosebud of Glen Valley	18755	24.9.30	20	9,690	4·51	437·08	350	Mature	269, 360, 427, 437
R. E. Huggins, Bullarook (Jersey)	4	4	Murona Beauty ..	24408	15.8.30	13	6,384	6·00	382·87	250	Jr. 3	370
			Delmont Delores ..	28762	11.9.30	14	5,538	6·60	365·59	200	Jr. 2	
			Delmont Medusa ..	28763	11.9.30	18	6,980	6·02	420·27	200	Jr. 2	
			Picaninny's 8th Bonnie of Avondale	18915	16.9.30	13	6,819	5·59	381·04	350	Mature	

* 150 days in test. † 240 days in test.

STANDARD HERD RECORDS—*continued.*

Owner.	No. completed Test.	No. Certificated.	Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Class.	Previous Yields of Butter Fat.
						lb.	lb.		lb.			
W. H. Hurry, Koonwarra (Jersey)	14	3	Dame of Bellaire ..	16286	10.8.30	22½	8,987	4·85	435·79	350	Mature	447, 406, 412
			Cream Belle 6th of Gnarbrook	17443	11.8.30	18½	8,080	4·40	355·50	350	Mature	312, 330, 389
			Blackwood Valley Little Queen	23221	19.8.30	16	6,849	6·26	429·04	325	Sr. 4	285, 297, 398
			Carrie 3rd of Queen's Vale	16285	22.8.30	25	9,492	6·08	576·82	350	Mature	459, 543, 464
			Kooreena Minerva 2nd	25952	22.8.30	22	7,913	6·09	481·58	225	Sr. 2	289
			Kyora Pearl 2nd ..	21366	23.8.30	4½	5,541	4·82	267·31	350	Mature	242, 255, 340
			Blackwood Valley Queen	25948	24.8.30	12	6,299	6·28	395·53	225	Sr. 2	298
			Kooreena Mourier Queen	25953	24.8.30	19	6,932	5·95	312·73	225	Sr. 2	311
			Kooreena Maranta ..	25951	31.8.30	18½	7,020	5·92	415·27	225	Sr. 2	322
			Whare Koa Lotina 2nd	23224	31.8.30	11½	6,852	6·15	421·34	350	Mature	255, 400, 389
			Kooreena Lulu ..	23222	9.9.30	17½	7,653	5·24	401·31	350	Mature	286, 367, 396
			Kooreena Minerva ..	23223	19.9.30	19½	9,566	5·16	493·56	325	Sr. 4	286, 404, 370
			Kooreena Lulu 3rd ..	28774	23.9.30	11½	4,826	5·81	280·56	200	Jr. 2	
			Lulu 5th of Roclands	17438	26.9.30	7½	7,893	4·56	359·93	350	Mature	377, 322, 354
J. Hutchinson and Sons, Somerville (Jersey)	3	3	Wynette of Somerville	18759	11.8.30	27½	10,271	5·05	518·72	350	Mature	403, 566, 552
			Somerville Primrose ..	28780	13.8.30	18½	5,514	6·03	332·52	200	Jr. 2	
			Somerville Rosebud ..	28783	7.9.30	22	6,288	4·80	301·61	200	Jr. 2	
A. B. Ingram, Powelltown (M. Shorthorn)	2	1	Florrie 11th of Glenburn	Vol. 1	17.9.30	8½	5,905	4·19	247·39	250	Jr. 3	261
			Lemon Grove Ethel 8th	Vol. 1	20.9.30	12	7,578	3·76	284·98	200	Jr. 2	
W. T. Jephson, Gelliondale (Jersey)	1	1	Blackwood Valley Blue Belle's Buttercup	24411	23.9.30	21½	8,089	5·90	477·10	325	Sr. 4	440,328
W.H. King, Warragul (Jersey)	3	3	Karoola Beauty ..	28996	11.8.30	20	5,834	5·54	323·33	200	Jr. 2	
			Karoola Honey Bee 3rd	23242	23.8.30	19	9,033	5·21	470·44	275	Sr. 3	358, 464
			Karoola Marie ..	25442	20.9.30	15½	7,589	5·44	413·13	225	Sr. 2	319
G. A. Kent, Archie's Creek (Ayrshire)	5	3	Rita of Woolamai Park	13754	31.7.30	5	5,874	4·31	253·39	350	Mature	229, 258, 291
			Woolamai Wynette ..	15001	8.8.30	9½	7,505	4·58	343·43	325	Sr. 4	249, 312
			*Woolamai Beryl ..	14993	22.8.30	4	6,810	4·23	288·17	325	Sr. 4	259, 295
			Woolamai Dolly ..	17013	1.9.30	11	7,263	4·64	336·99	275	Sr. 3	278
			Merry of Woolamai Park	12357	25.9.30	9	7,094	5·05	358·22	350	Mature	265, 402, 365
T. Knowles, Dandenong (Ayrshire)	15	12	Gleneira Nicotine ..	20148	4.7.30	6	8,546	3·98	340·29	350	Mature	364, 325
			Mab of Beleura ..	14233	7.7.30	17	8,619	4·50	387·55	350	Mature	290, 364
			Dandy Blueribbon ..	19821	18.7.30	25	7,857	4·36	342·58	200	Jr. 2	
			Fernhill Rosina ..	16032	18.7.30	22½	10,231	4·61	472·10	325	Sr. 4	248, 411
			Dandy Poppy ..	17731	6.8.30	6	7,332	4·11	301·59	250	Jr. 3	247
			Gillespie Peat ..	22755	15.8.30	21½	6,740	4·25	286·35	200	Jr 2	
			Gillespie Tourine ..	22757	15.8.30	18½	5,997	3·85	230·96	200	Jr. 2	
			Rosebud of Fernhill ..	10453	17.8.30	12½	8,397	3·89	326·84	350	Mature	274, 211
			Belleura Nicotine ..	19499	22.8.30	6	6,708	3·91	262·46	250	Jr. 3	250
			Belleura Peat 2nd ..	19505	4.9.30	8½	5,280	4·30	227·28	250	Jr. 3	267
			Bona Vista Cloverleaf 2nd	19567	8.9.30	6½	7,740	4·28	331·05	275	Sr. 3	332. 315
			Dandy Bluebell ..	19820	15.9.30	17½	6,399	4·65	297·53	200	Jr. 2	
			Dandy Rosina ..	19825	15.9.30	11	5,073	5·04	255·58	200	Jr. 2	
			Dandy Princess Betty	17733	16.9.30	17½	8,816	4·13	363·79	225	Sr. 2	263
			Dandy Rosebud ..	19824	25.9.30	17	6,368	4·20	267·61	200	Jr. 2	
Koenig Bros., Mooroopna North (Ayrshire)	3	3	Oakbank Peeress ..	18763	9.7.30	15	9,471	3·95	374·05	275	Sr. 3	277
			†Borinya Lucy ..	17368	17.7.30	4	7,050	4·33	305·34	250	Jr. 3	270
			Kathleen of Midbranch	11789	20.9.30	33	11,652	3·78	440·88	350	Mature	
A. Lade, Alexandra (Jersey)	6	3	Sandfly of Greenmeadows	17702	13.7.30	14	6,635	4·76	315·77	350	Mature	
			My Luck of the Rectory	21403	5.8.30	13	5,319	6·10	324·46	350	Mature	366
			Lady Grey 40th of St. Albans	23247	18.8.30	20	7,877	4·64	365·70	300	Jr. 4	333
			Jess of Wollingurry ..	9486	31.8.30	15	6,245	5·33	333·01	350	Mature	271
			Glen Vale Pansy ..	24449	1.9.30	19½	7,533	4·74	357·11	275	Sr. 3	272
			Hythe Flower ..	28998	24.9.30	10½	3,827	6·48	247·91	225	Sr. 2	223

240 days in test. † 210 days in test.

STANDARD HERD RECORDS—*continued.*

Owner.	No. completed Test.	No. Certificated.	Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Class.	Previous Yields of Butter Fat.
						lb.	lb.		lb.			
F. Lade, Kew (Jersey) ..	1	..	Soprano 5 of Banyule..	14198	10.9.30	7½	5,603	5·88	329·36	350	Mature	256
K. D Lane, Merino (Jersey)	1	1	Dalray Fairy Queen ..	26007	12.8.30	9	6,499	5·62	365·09	200	Jr. 2	
K. C. Lawlor, Caldermeade (Ayrshire)	1	..	Opal of Cathcart ..	13523	30.8.30	7	6,599	3·89	256·93	350	Mature	305, 288, 307
P. H. Lawrence, Tarrawarra (Jersey)	4	4	Rainga Mercedes Mascotte	24440	5.8.30	12½	5,786	6·06	350·52	275	Sr. 3	289
			Rainga Royal Duchess	24444	12.8.30	11½	5,300	6·06	321·15	275	Sr. 3	206, 194
			Rainga Lilys Brown Lady	24437	15.8.30	9	5,481	6·01	329·63	225	Sr. 2	252
			Rainga Mercedes Golden Princess	24439	10.9.30	16½	8,387	5·13	430·26	275	Sr. 3	323
O. W. J. Leemon, Archie's Creek (Jersey)	2	2	*Hill Crest Wildflower ..	25361	1.8.30	19	8,420	4·42	372·37	325	Sr. 4	284, 254
			Snow Queen of Willis Vale	14977	18.8.30	21½	9,350	4·54	424·81	350	Mature	263, 316, 375, 312, 360, 372
Mrs. E. M. Lennie, Tongala (Jersey)	9	8	The Valley Merella 3rd	26021	13.8.30	15	6,215	5·38	334·36	225	Sr. 2	238
			The Valley Poppy 2nd	26024	15.8.30	16	6,653	6·46	429·48	275	Sr. 3	334
			The Valley Melody- ..	28824	18.8.30	12	4,941	5·17	255·63	200	Jr. 2	
			Music of The Valley ..	17450	19.8.30	17	7,881	4·99	393·26	350	Mature	347, 349, 371
			The Valley Stumpy 3rd	28827	21.8.30	19	6,228	5·40	336·14	200	Jr. 2	
			The Valley Music 2nd	26022	22.8.30	19	6,650	5·01	333·43	225	Sr. 2	236
			Stumpy 4th of Holmwood	6493	24.8.30	20	7,772	4·31	334·71	350	Mature	496, 435, 460
			The Valley Wild Rose	23260	8.9.30	21	10,050	5·06	508·98	325	Sr. 4	374, 450, 380
			The Valley Dahlia II.	23256	17.9.30	19½	5,903	5·79	341·63	325	Sr. 4	248, 345
T. Leslie, Myrtlebank (Jersey)	1	1	Summer Hill Blonde ..	29009	27.7.30	16	6.623	4·69	310·42	200	Jr. 2	
Longerenong College, Dooen (Ayrshire)	2	1	*Longerenong Ivy ..	15047	16.9.30	4	6,525	4·39	286·15	350	Mature	191, 296, 221
			Merle of Longerenong..	12435	20.9.30	4½	8,075	4·55	367·61	350	Mature	283, 314, 322
Mrs. L. Lowing, Tongala (Jersey)	11	11	Violet of the Valley ..	18795	2.7.30	15	7,838	4·47	350·53	350	Mature	233, 296, 298
			Troed Yr. Rhiw Llinos	26046	14.7.30	22	8,653	4·82	416·87	275	Sr. 3	350
			Troed Yr. Rhiw Golen Dydd	24452	17.7.30	22	7,940	5·26	417·54	275	Sr. 3	293, 413
			Luck of The Valley ..	17780	17.7.30	22	7,460	5·21	388·81	350	Mature	361, 330, 346
			Lily 2nd of The Valley	16307	28.7.30	33	10,496	4·97	522·02	350	Mature	409, 472, 346
			Troed Yr. Rhiw Dilys	26042	2.8.30	21	7,059	4·91	346·87	225	Sr. 2	296
			Troed Yr. Rhiw Cariad	23266	10.8.30	12	8,058	5·34	430·62	325	Sr. 4	234, 357
			Myra 4th of The Valley	21423	30.8.30	15	7,945	5·30	421·06	350	Mature	281, 362, 427
			Troed Yr. Rhiw Fydd	26044	31.8.30	16	7,457	4·99	372·05	250	Jr. 3	337
			Troed Yr. Rhiw Megan	26476	4.9.30	15	5,216	6·07	316·78	200	Jr. 2	
			Troed Yr. Rhiw Bettwys	26039	25.9.30	20	7,098	4·61	327·28	200	Jr. 2	264
C. G. Lyon, Heidelberg (Jersey)	13	13	Molly 6th of Banyule	7124	14.7.30	20	9,489	4·22	400·76	350	Mature	451, 613, 598
			Silvermine 38 of Banyule	18817	24.7.30	11½	6,446	5·45	351·60	325	Sr. 4	310, 318
			Silvermine 29 of Banyule	14195	1.8.30	19½	9,107	4·44	404·72	350	Mature	482, 472, 493
			Banyule Molly 26th ..	24459	4.8.30	24½	8,313	5·43	451·47	250	Jr. 3	
			Banyule Ettie 11th ..	24454	6.8.30	17½	7,601	5·57	423·01	250	Jr. 3	323
			Silvermine 27 of Banyule	11603	8.8.30	20	7,671	5·18	397·70	350	Mature	381, 421, 511
			Molly 17th of Banyule	14192	15.8.30	26	8,688	5·33	462·78	350	Mature	409, 430, 526
			Ettie 9th of Banyule ..	78804	26.8.30	22½	8,190	5·55	454·61	325	Sr. 4	
			Banyule Hawthorn 15	25458	29.8.30	22½	7,634	5·16	393·75	225	Sr. 2	
			Silvermine 22 of Banyule	9505	29.8.30	23½	7,785	4·73	368·19	350	Mature	464, 473, 450
			Silvermine 33 of Banyule	18812	1.9.30	26	9,449	4·94	466·74	350	Mature	391, 438, 492
			Banyule Velveteen 12th	24474	5.9.30	19	6,467	5·26	340·32	225	Sr. 2	
			Banyule Silvermine 45th	24465	22.9.30	23½	7,982	5·36	427·69	275	Sr. 3	404

* 240 days in Test.

STANDARD HERD RECORDS—*continued.*

Owner.	No. completed Test.	No. Certificated.	Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Class.	Previous Yields of Butter Fat.
						lb.	lb.		lb.			
C. W. W. Macauley, Rochester (Jersey)	3	3	Taranah Daphne ..	C.R.	15.8.30	13	4,646	5·43	252·12	200	Jr. 2	
			Fairy of Taranah ..	16716	22.8.30	13	8,096	5·59	452·63	350	Mature	457, 484, 485
			Taranah Heather ..	C.R.	23.9.30	N.O.C.	5,921	5·55	321·81	200	Jr. 2	
Miss C. E. McClelland, Tunstall (Jersey)	1	..	*Peggy of the Elms ..	21446	25.9.30	18½	5,940	4·68	278·03	350	Mature	237, 313, 357
J. McDougall, Byaduk (Jersey)	7	7	Parkview Shirley ..	26057	1.8.30	14½	6,774	5·64	382·28	200	Jr. 2	
			May Queen 2nd of Park View	17790	2.8.30	14	7,070	5·23	369·57	350	Mature	292, 387, 362
			Park View Laurel 2nd	29049	12.8.30	11	4,358	5·32	231·66	200	Jr. 2	
			Park View Madge ..	29050	12·8.30	6½	3,291	5·63	185·43	250	Jr. 3	
			Flora of Park View ..	18826	12.8.30	10	8,355	5·33	445·58	350	Mature	338, 434, 437
			Park View Charm 2nd	29045	17.9.30	12½	3,879	5·29	205·01	200	Jr. 2	
			Park View Mayflower 2nd	29052	17.9.30	15½	5,937	4·83	286·53	200	Jr. 2	
Messrs. I. McErvale and Sons, Camperdown (Jersey)	11	8	Pansy of Glenallwyn ..	13379	1.7.30	25	7,523	4·94	371·95	350	Mature	378
			Amelia's Lady 2nd of Waterloo Farm	9361	28.7.30	16	6,188	4·58	283·15	350	Mature	350
			Cumnock Noble Lady..	17461	30.7.30	15	9,074	4·43	402·12	350	Mature	295
			Pearl of Glenallwyn ..	13380	4.8.30	15½	7,836	5·33	417·31	350	Mature	415
			Castlemaddie Silvermine 2nd	Vol. 18	23.8.30	10½	4,773	6·19	295·50	275	Sr. 3	252, 287
			Greenwood Astra ..	25518	5.9.30	14	7,437	4·94	367·44	250	Jr. 3	413
			Beauty of Castlemaddie	21477	9.9.30	9	6,587	5·54	365·09	350	Mature	361, 452
			Gnarbrook Milkmaid ..	24419	12.9.30	17	7,426	4·78	354·93	275	Sr. 3	
			Cumnock Betty ..	25484	19.9.30	13	6,549	4·96	324·58	250	Jr. 3	307
			*Kyora Curio ..	15042	20.9.30	4	7,522	4·63	347·98	350	Mature	358, 367
			*Glenfield Curio ..	17728	21.9.30	4	6,495	4·77	309·83	350	Mature	344, 366
K. McGarvie, Pomborneit (Jersey)	19	19	Greenwood Babe ..	25525	4.7.30	12½	4,641	6·22	288·77	200	Jr. 2	
			Greenwood Bride ..	C.R.	4.7.30	18	5,699	4·88	278·35	200	Jr. 2	
			Greenwood Beth ..	C.R.	5.7.30	15	6,035	5·51	332·35	200	Jr. 2	
			Greenwood Blossom ..	C.R.	6.7.30	20½	6,254	5·47	342·33	200	Jr. 2	
			Greenwood Belvidera	C.R.	7.7.30	22½	7,517	5·16	387·96	200	Jr. 2	
			Greenwood Beaver ..	C.R.	8.7.30	21½	5,865	5·59	328·05	200	Jr. 2	
			Greenwood Belinda ..	C.R.	9.7.30	19½	5,670	5·13	290·77	200	Jr. 2	
			Greenwood Blanche ..	C.R.	10.7.30	16	5,181	5·90	305·75	200	Jr. 2	
			Greenwood Breadwinner ..		14.7.30	17½	5,505	5·98	329·18	200	Jr. 2	
			Greenwood Bella ..	C.R.	17.7.30	18	6,035	5·16	311·49	200	Jr. 2	
			Greenwood Beloved ..	C.R.	21.7.30	14½	6,212	5·97	370·75	200	Jr. 2	
			Greenwood Birdie ..	C.R.	25.7.30	15½	5,448	5·71	310·87	200	Jr. 2	
			Greenwood Badger ..	C.R.	1.8.30	18	7,113	4·56	324·03	200	Jr. 2	
			Greenwood Bertha ..	C.R.	17.8.30	17½	6,219	5·42	337·23	200	Jr. 2	
			Greenwood Bangle ..	C.R.	18.8.30	11½	5,246	5·41	283·89	200	Jr. 2	
			Greenwood Begam ..	C.R.	18.8.30	15	5,544	4·56	253·04	200	Jr. 2	
			Greenwood Brownie ..	C.R.	28.8.30	8½	5,270	5·92	311·94	200	Jr. 2	
			Glenfield Vasilika ..	C.R.	30.8.30	5	4,053	5·55	225·03	200	Jr. 2	
			Colleen of Greenwood	18834	4.9.30	7	6,848	5·61	383·96	350	Mature	
A. A. McInnes, Gunbower (M. Shorthorn)	3	1	Pearl Beauty 13th ..	Vol. 1	3.7.30	7½	7,359	3·79	279·02	325	Sr. 4	253, 232
			Pearl Beauty 18th ..	Vol. 1	24.7.30	15½	4,854	3·36	163·21	225	Sr. 2	
			Roseleaf 6th ..	Vol. 1	1.8.30	16½	6,002	4·01	240·59	200	Jr. 2	
G. A. McNabb and Son, Irrewillipe East (Jersey)	8	7	Trefoil 4th of Springhurst	16972	28.6.30	22	6,725	4·91	330·07	350	Mature	299, 300
			Lodestone of Springhurst	21608	29.6.30	25	8,319	5·48	455·63	350	Mature	357, 418, 438
			Miss Linacre 2nd of Boorene	24245	5.7.30	36½	10,698	4·74	506·87	350	Mature	425, 476, 492
			Mendip Vanilla 2nd ..	23465	10.7.30	24	7,737	5·25	406·46	300	Jr. 4	281, 345, 341
			Springhurst Easter Daisy 2nd	25543	10.7.30	13	5,153	6·13	315·84	200	Jr. 2	245
			Maxon Primrose ..	29080	8.8.30	18½	5,562	5·48	304·98	200	Jr. 2	
			Maxon Easter Daisy ..	29074	11.8.30	19	6,389	4·77	304·79	200	Jr. 2	
			Maxon Mercedes Buttercup	29077	20.9.30	23	7,751	5·02	389·43	200	Jr. 2	
Mesdames McWhae and Silvester, Merino (Guernsey)	3	..	Taliskar Air Belle ..	2218	1.9.30	8½	3,818	5·10	194·56	200	Jr. 2	
			Wollongbar Parsons Red Rose 44th	1383	1.9.30	9	4,625	4·92	227·55	350	Mature	297, 289, 341
			Minnamurra Elizabeth	1468	14.9.30	6½	4,595	4·72	216·95	350	Mature	276, 269

* 240 days in test.

STANDARD HERD RECORDS—*continued.*

Owner.	No. completed Test.	No. Certificated.	Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Class.	Previous Yields of Butter Fat.
						lb.	lb.		lb.			
Messrs Maher Bros., Seymour (Ayrshire)	7	5	Evelyn Bessie ..	19972	28.6.30	10	4,277	5·17	221·17	200	Jr. 2	
			Evelyn Refrain ..	15076	14.7.30	20	6,513	4·46	290·57	325	Sr. 4	318
			Evelyn Leaflet ..	19975	16.7.30	16½	6,080	3·80	230·78	200	Jr. 2	
			Evelyn Betty ..	19973	21.8.30	17½	7,554	3·73	281·98	250	Jr. 3	228
			*Evelyn Adeline ..	16014	22.8.30	4	7,170	3·93	281·80	300	Jr. 4	255, 314
			Gowrie Park Brief ..	20213	22.8.30	17½	8,195	4·34	356·01	325	Sr. 4	314
			Refrain of Gowrie Park	13207	2.9.30	14½	9,374	3·84	359·97	350	Mature	337, 359
R. H. Maher, Tongala (Jersey)	3	3	Rosemont Daisy 4th ..	26063	1.8.30	13	7,433	5·95	442·03	275	Sr. 3	356, 406
			Rosemont Lady Fowler 4th	26064	4.8.30	13½	6,993	5·84	408·16	225	Sr. 2	
			Rosemont Lassie Fowler 3rd	26065	1.9.30	15	7,382	5·45	402·60	250	Jr. 3	252
Dr. R. Mailer, Shepparton (Jersey)	9	2	Coolwoola Montrose Pearls Girl	26067	25.7.30	N.O.C.	7,062	4·54	320·68	300	Jr. 4	276
			Maneroo Margarets Silvermine Lass	26071	3.8.30	22	5,832	4·59	267·65	275	Sr. 3	295, 243
			*Daphne 2nd of Somerset	9193	17.8.30	4	5,355	4·92	263·40	350	Mature	207, 367, 296
			Pearls Girl of Coolwoola	19971	21.8.30	22½	8,712	5·20	452·94	350	Mature	345, 389
			Margarets Silvermine 2nd of Somerset	17399	25.8.30	16½	6,954	4·39	305·56	350	Mature	330, 315
			Coolwoola Ruby 3rd ..	26068	12.9.30	8½	5,726	4·61	264·10	250	Jr. 3	248
			Margarets Favourite of Somerset	13829	19.9.30	5	4,993	5·27	263·18	350	Mature	317, 216
			Lady Marge 4th of Somerset	17396	21.9.30	7	5,675	5·09	288·76	350	Mature	331, 266
			Amber 2nd of Coolwoola	19969	26.9.30	9½	5,748	4·89	280·97	350	Mature	272, 276
P. J. Maloney, Tongala (Jersey)	4	4	Belgonia Peggy 6th ..	29117	27.7.30	24	8,314	5·64	469·06	200	Jr. 2	
			*Belgonia Marie 4th ..	24491	23.8.30	4	7,935	5·92	469·99	300	Jr. 4	357, 512
			Belgonia Buttercup 3rd	29114	29.8.30	10	5,784	6·46	373·81	200	Jr. 2	
			Eileen 2nd of Clarendon Eyre	13521	2.9.30	15	8,924	5·97	532·96	350	Mature	468, 404, 467
A. J. Mapleson, Jindivick (Jersey)	6	6	Purity of Hazeldale ..	12999	10.8.30	N.O.C.	10,969	5·17	567·16	350	Mature	514, 527, 519,
			Pearl of Hazeldale ..	12998	16.8.30	N.O.C.	8,783	5·17	453·72	350	Mature	447, 481, 430,
			Jessie of Meridale ..	9552	1.9.30	21	8,838	5·84	516·15	350	Mature	513, 468, 486,
			Pearl of Meridale ..	9553	2.9.30	17½	6,563	5·88	386·18	350	Mature	420, 448, 393,
			Hazeldale Ruby 3rd ..	29125	8.9.30	9	5,384	5·20	279·76	225	Sr. 2	265
			Hazeldale Golden Charm	..	25.9.30	12½	4,524	5·85	264·82	200	Jr. 2	
M. Marshall, Myrtlebank (Jersey)	2	1	†Elthamleigh Twinkle Lass 2nd	22927	5.9.30	4	4,650	5·18	240·92	350	Mature	
			Bella of Latrobe ..	16655	22.9.30	19	6,260	5·71	357·36	350	Mature	315, 293, 357,
A. R. Marshman, Archie's Creek (Jersey)	6	4	Forgan Dainty 2nd ..	25556	2.8.30	14½	6,371	5·22	332·29	275	Sr. 3	282
			Forgan Bunty ..	C.R.	26.8.30	11½	4,148	5·62	232·94	200	Jr. 2	
			Forgan Jewell ..	C.R.	12.9.30	9	4,100	4·53	185·61	200	Jr. 2	
			Birdleigh Ladylike 2nd	17419	21.9.30	6½	5,403	4·39	237·28	350	Mature	283
			Forgan Trixie ..	29129	21.9.30	9	4,934	5·50	271·46	250	Jr. 3	234
			Forgan Hazel ..	C.R.	25.9.30	11½	5,781	4·39	253·80	200	Jr. 2	
R. Masters, Swan Hill (Ayrshire)	10	8	Muriel of Dudleigh ..	7685	25.7.30	8	10,800	4·04	435·78	350	Mature	442, 465, 436
			Grand View Tinker Bell	21707	8.8.30	13½	5,621	4·60	258·60	200	Jr. 2	
			Grand View Wattle ..	20284	16.8.30	10	8,193	4·38	358·54	350	Mature	357, 376
			Louisa of Sunnyside ..	14297	31.8.30	7	9,747	3·76	366·83	350	Mature	331
			Begonia of Sunnyside	7990	2.9.30	6½	8,835	4·03	355·91	350	Mature	408, 571
			Roma of Sunnyside ..	8062	7.9.30	13½	8,544	3·75	320·10	350	Mature	370, 360
			*Sunnyside Laurie's Ellaline	16785	13.9.30	4	8,190	4·21	345·03	350	Mature	398, 343
			Grand View Blossom..	20279	13.9.30	21	9,914	4·19	415·69	300	Jr. 4	340, 421
			Muriel of Evergreen ..	11055	20.9.30	7½	10,368	3·54	366·70	350	Mature	388, 403
			Grand View Annie ..	20278	22.9.30	11½	7,677	3·88	297·51	275	Sr. 3	290, 289
S. H. Masters, Murraydale (Jersey)	3	3	Lea. Hurst Silk Stockings 5th	26073	11.7.30	20	7,364	5·29	389·40	275	Sr. 3	330, 382
			King's Vale Brunette 21st	23313	22.7.30	31	10,997	4·69	515·72	325	Sr. 4	318, 467, 536
			Lea. Hurst Silk Stockings 3rd	23428	11.8.30	16	6,992	5·68	396·90	350	Mature	319, 373, 439

* 240 days in Test. † 216 days in Test.

STANDARD HERD RECORDS—*continued.*

Owner.	No. completed Test.	No. Certificated.	Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Class.	Previous Yields of Butter Fat.
						lb.	lb.		lb.			
S. Meadowcroft, Stanhope (Jersey)	2	2	Comet 3rd of Melksham Park	9806	15.7.30	23	9,713	4·74	460·57	350	Mature	509
			Venus of Irymple ..	21503	29.7.30	18	7,010	5·23	366·55	350	Mature	374
T. Mesley, Dalyston (Jersey)	6	6	Warenda Agnes 5th ..	29148	3.8.30	20½	6,555	6·76	443·05	250	Jr. 3	364
			Warenda Gazelle 8th ..	Vol. 18	23.8.30	28	8,133	5·12	416·34	250	Jr. 3	
			Warenda Mandoline 4th	Vol. 18	30.8.30	20½	6,444	5·71	367·88	200	Jr. 2	
			Warenda Garenne 11th	Vol. 18	5.9.30	20½	7,307	5·93	433·55	200	Jr. 2	
			Warenda Garenne 10th	Vol. 18	5.9.30	19½	5,619	5·62	315·94	200	Jr. 2	
			Warenda Lullaby 2nd	Vol. 18	15.9.30	8½	4,425	5·04	222·98	200	Jr. 2	
E. M. Middleton, Hamilton (Jersey)	5	5	Kyora Dream Girl ..	29160	30.7.30	18	7,167	5·80	415·95	225	Sr. 2	374
			Castlemaddie Silvermine 2nd	29656	30.8.30	14½	5,744	6·23	357·64	225	Sr. 2	
			Wompini Mistress Chloe ..	..	13.9.30	14½	6,350	5·10	323·84	200	Jr. 2	
			Averley Norma ..	22953	14.9.30	16½	7,551	5·59	422·44	350	Mature	295, 418
			Clover Flat Zoe 3rd ..	23476	22.9.30	15	7,037	4·76	334·88	325	Sr. 4	343
R. K. Milne, Camperdown (Jersey)	3	3	Allambie Queen 3rd ..	29506	13.8.30	17	6,317	4·34	274·15	200	Jr. 2	
			Glenmavis Virginia ..	25286	14.8.30	15	6,050	5·93	358·79	225	Sr. 2	250
			Allamble Lowana 2nd	29502	30.8.30	17	5,739	5·39	309·57	200	Jr. 2	
J. Mocre and Co., Yarram (Jersey)	21	14	Maiden of Comelybanks	18708	3.7.30	7	3,989	5·16	205·97	350	Mature	325
			Tooloonook Lilac Bloom	C.R.	9.7.30	10½	4,620	5 69	262·97	200	Jr. 2	
			†Burnside Vasilika ..	16946	18.7.30	4	2,760	5·81	160·41	350	Mature	356
			Tooloonook Peach ..	C.R.	19.7.30	13½	5,571	5·06	281·87	200	Jr. 2	
			Beauty 3rd of Bellvue	15571	23.7.30	9½	8,279	4·40	364·01	350	Mature	281
			†Burnside Lilac Bloom 3rd	C.R.	28.7.30	4	4,005	5·18	207·33	300	Jr. 4	283
			Tooloonook Plumbago 3rd	C.R.	29.7.30	10½	5,102	6·07	309·51	200	Jr. 2	
			Tooloonook Angler's Belle	C.R.	8.8.30	18½	7,732	5·69	440·03	300	Jr. 4	
			Tooloonook Boltonia 2nd	C.R.	11.8.30	8½	4,545	5·69	258·71	200	Jr. 2	
			†Tooloonook Lotus ..	C.R.	11.8.30	4	3,458	4·66	161·20	225	Sr. 2	
			Tooloonook Molly ..	C.R.	11.8.30	6½	6,011	4·95	297·78	200	Jr. 2	
			Tooloonook Heather ..	C.R.	16.8.30	11½	5,417	5·15	279·10	200	Jr. 2	
			Tooloonook Plumbago 2nd	25568	19.8.30	14½	7,691	5·56	427·42	300	Jr. 4	323
			Tooloonook Trixie 6th	C.R.	22.8.30	6½	3,846	5·41	207·98	200	Jr. 2	
			Tooloonook Cheeky ..	21532	30.8.30	N.O.C.	6,327	4·39	277·74	350	Mature	351
			Tooloonook Velveteen 2nd	C.R.	31.8.30	8	5,427	4·66	252·76	200	Jr. 2	
			Baltonia 3rd of Springhurst	18873	31.8.30	21	8,724	5·25	457·79	350	Mature	384
			Tooloonook Belle ..	..	11.9.30	9½	5,856	5·53	323·64	325	Sr. 4	
			Burnside Molly ..	25563	16.9.30	10½	8,524	5·06	431·04	300	Jr. 4	438
			Tooloonook Sanfoin ..	C.R.	17.9.30	17	7,296	4·93	359·79	250	Jr. 3	249
			Gloria of Glenwood ..	15572	26.9.30	4	5,232	6·05	316·70	350	Mature	333
Estate W. J. Muhlebach, Batesford (Ayrshire)	9	4	*Deneville Snowflakes Pride ..	17765	3.7.30	4	5,055	4·35	219·65	275	Sr. 3	
			Retreat Iris	18875	30.7.30	14½	6,636	4·18	277·15	225	Sr. 2	263
			Retreat Poppy ..	16559	12.8.30	4½	6,469	4·12	266·72	275	Sr. 3	268
			*Retreat Laurette ..	16557	15.8.30	4	6,060	4·25	257·36	275	Sr. 3	275
			Retreat Ethel ..	2066	20.8.30	9	5,558	4·26	236·67	200	Jr. 2	
			Pearl of Retreat ..	13904	21.8.30	10	6,512	4·43	288·16	350	Mature	334
			Retreat Madamoiselle ..	20670	7.9.30	13½	7,289	3·94	287·48	200	Jr. 2	
			Retreat Poppy's Queen	20672	20·9.30	12	5,588	4·02	224·42	200	Jr. 2	
			Retreat White Primrose	16560	27.9.30	7	6,841	3·90	266·67	275	Sr. 3	209
W. X. Murlebach, Batesford (Jersey)	3	3	Golden Girl of Wattle Bank	17811	25.8.30	16½	7,811	4·78	373·37	350	Mature	339
			Strathey Lady ..	C.R.	1.9.30	N.O.C.	5,613	4·38	246·03	225	Sr. 2	237
			Strathey Lulu ..	23338	4.9.30	23	9,290	5·49	509·56	325	Sr. 4	422
C. Nathan, Tongala (Jersey)	3	3	Werribee Day Starbright	24525	28.7.30	28½	9,189	5·40	496·22	275	Sr. 3	356, 373
			Mansfield Morning Glory	29195	6.8.30	16	6,146	4·79	294·09	200	Jr. 2	
			Chloe 2nd of Claron-doneyre	11650	19.8.30	12	8,745	5·64	493·54	350	Mature	486, 374, 426

* 240 days in Test. † 210 days in Test.

STANDARD HERD RECORDS—*continued.*

Owner.	No. completed Test.	No. Certificated.	Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Class.	Previous Yields of Butter Fat.
						lb.	lb.		lb.			
E. B. Neave, Callignee (Jersey)	4	4	Mendip Vanilla 3rd ..	28635	31.8.30	8	6,192	5·47	338·58	275	Sr. 3	
			Grangelea Dainty 4th..	29657	2.9.30	11½	5,783	5·81	336·25	225	Sr. 2	
			Grangelea Defenders Favourite	29658	7.9.30	13½	6,899	5·65	389·57	225	Sr. 2	
			Willis Vale Pretty Vanity	26435	15.9.30	16	7,511	5·48	411·40	250	Jr. 3	
E. Nicholls, Springhurst (Jersey)	3	2	Nickel Bar Venus ..	24531	3.7.30	9	5,417	5·63	305·00	275	Sr. 3	224, 256
			*Nickel Bar Hilda ..	Vol. 18	15.7.30	4	1,838	5·79	106·40	200	Jr. 2	
			Nickel Bar Vesta ..	26116	9.8.30	N.O.C.	5,438	5·62	305·56	200	Jr. 2	127
T. M. Noble and Son, Maffra (Jersey)	8	8	Wompini Vasilika ..	C.A.	17.7.30	22	6,528	5·50	359·03	200	Jr. 2	
			Wompini Duchess ..	25607	23.7.30	28	9,695	5·42	525·27	325	Sr. 4	346
			Dimple of Queens Vale	17697	1.8.30	23	7,695	5·97	459·46	350	Mature	268, 333, 459
			Finchley Canary 2nd ..	Vcl. 18	1.8.30	15	6,041	5·73	346·45	200	Jr. 2	
			Linga Linga Wattles Speck	25574	28.8.30	21½	7,464	5·50	410·33	275	Sr. 3	317, 373
			Melrose Jessie 51st ..	..	6.9.30	11½	5,631	6·31	355·29	225	Sr. 2	288
			Finchley Music ..	C.R.	24.9.30	13	5,244	5·64	295·75	200	Jr. 2	
			Jerseyinn Nasturtium 2nd	25639	24.9.30	19	6,365	5·30	337·33	200	Jr. 2	
B. R. O'Meara, Caldermeade (Ayrshire)	3	2	Scotsville Charm ..	20724	9.7.30	9	5,247	4·58	240·48	200	Jr. 2	
			Scotsville Petals ..	20726	22.8.30	13	6,266	4·59	287·42	200	Jr. 2	
			Countess of Hillcrest ..	9082	21.9.30	13	7,245	4·54	328·94	350	Mature	314, 453, 440
W. H. Onley, Caldermeade (Ayrshire)	3	2	Holm Buttercup ..	20348	1.9.30	12	4,851	3·84	186·46	200	Jr. 2	
			Holm Brilliance ..	20347	9.9.30	14½	5,309	3·90	206·81	200	Jr. 2	
			Holm Betty ..	16345	15.9.30	18½	9,765	4·18	407·84	300	Jr. 4	286, 331
Mrs. L. Orchard, Grahamvale (Jersey)	5	1	Jersey Vale Mayflower	24542	10.7.30	14	6,078	4·70	285·68	325	Sr. 4	227
			Joyce of Jersey Vale ..	19937	30.7.30	11½	6,992	5·22	364·75	350	Mature	177, 231, 264
			Iris of Jersey Vale ..	15580	13.8.30	7	5,616	5·03	282·61	350	Mature	303, 315, 323
			Mabel of Jersey Vale ..	18885	18.8.30	8½	6,412	4·51	289·14	350	Mature	179, 233
			Poppy of Jersey Vale	15582	27.8.30	12	5,780	4·36	251·96	350	Mature	234, 311, 286
H. M. Osborne, Poowong East (Jersey)	3	3	Melrose Jenny Lind 22nd	29649	7.8.30	8	4,777	6·16	294·05	225	Sr. 2	
			Grangelea Prim 2nd ..	26391	12.9.30	6½	5,792	5·31	307·40	250	Jr. 3	363
			Grangelea Goldfinch 5th	26390	24.9.30	8	4,552	6·03	274·37	225	Sr. 2	313
Mrs. A. C. Overend, Sale (Jersey)	2	2	Sparkle 10th of Jerseyholm	18774	8.7.30	21	7,184	5·08	364·71	350	Mature	316, 384, 298
			Bon Accord Island Gem	25576	7.8.30	15½	6,126	5·99	366·92	275	Sr. 3	271, 270
I. Padgett, Werribee (Friesian)	2	2	Tulla Lady Daffodil ..	..	1.8.30	24	9,539	4·28	407·81	275	Sr. 3	
			St. Albans May ..	2596	4.9.30	33	12,137	3·58	434·85	350	Mature	382, 397
W. Parbury, Warburton (Jersey)	3	3	Songstress 8th of Brookfield	21569	7.9.30	10½	6,174	5·95	367·47	325	Sr. 4	295, 373
			Betty 6th of Brookfield	21548	11.9.30	16	7,398	5·86	433·37	350	Mature	276, 413
			Brookfield Songstress 11th	29295	21.9.30	15	6,011	5·67	341·05	250	Jr. 3	
F. Pattison, Tongala (Ayrshire)	2	..	†Tonga Park Betty ..	16854	8.8.30	4	8,535	3·98	340·08	350	Mature	
			Willow Park Ella ..	16926	11.8.30	5½	6,848	4·42	302·95	350	Mature	
W. H. Pearce, Eurack (Jersey)	1	1	Lucerne Vale Lily 2nd	21241	4.9.30	18½	7,413	5·19	384·53	300	Jr. 4	
J. Pearson, Nerrena East (Jersey)	5	4	Warrawee Iris ..	26346	15.7.30	20	8,039	4·77	383·17	250	Jr. 3	314
			Warrawee V.C. Jewel	C.R.	15.7.30	9	4,902	5·27	258·10	200	Jr. 2	
			Glenmore Heather ..	Vol. 18	5.8.30	20½	6,482	4·44	287·92	350	Mature	
			Glenmore Peeress ..	Vol. 18	11.8.30	20	6,781	5·22	354·26	350	Mature	
			Peggy 3rd of Belgonia	21493	27.8.30	13½	8,923	4·65	415·34	350	Mature	447, 547, 415

* 180 days in Test. † 240 days in Test.

STANDARD HERD RECORDS—*continued.*

Owner.	No. completed Test.	No. Certificated.	Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Class.	Previous Yields of Butter Fat.
						lb.	lb.		lb.			
Pettitt Bros., Geelong (Ayrshire)	8	5	Blinkbrae Vida 3rd ..	17345	4.9.30	15½	7,603	4·07	309·23	250	Jr. 3	262
			Blinkbrae Melba 6th ..	17342	5.9.30	8½	6,771	4·36	295·55	225	Sr. 2	228
			Blinkbrae Viola ..	19565	7.9.30	16½	5,395	4·03	217·44	200	Jr. 2	
			Blinkbrae Melba 9th ..	17344	10.9.30	20	7,945	4·18	331·77	225	Sr. 2	238
			*Melba of Woodbyrne ..	7049	11.9.30	4	6,680	3·69	246·28	350	Mature	232, 294
			Marie of Blinkbrae ..	12668	21.9.30	4½	7,199	4·26	306·67	350	Mature	369
			Vida of Glen Avon ..	8387	21.9.30	15	8,743	3·89	340·45	350	Mature	208, 342, 321
			Melba 2nd of Blinkbrae	14072	22.9.30	N.O.C.	7,886	4·44	350·17	350	Mature	373
J. Phillips, Murraydale (Jersey)	3	2	Vanilla 18th of Melrose	13424	30.6.30	14	5,915	5·78	342·15	350	Mature	401, 428, 390
			Hopes Surprise of Peri	17819	5.8.30	9	9,327	4·08	380·76	350	Mature	278, 362, 331
			Carnation of Ferntree Vale	9637	19.8.30	6½	6,705	5·23	350·45	350	Mature	378, 392, 346
J. Plattfuss, Tongala (Friesian)	10	9	Greenvale Galatea Paxton	3101	1.7.30	25	12,293	3·17	389·92	275	Sr. 3	270
			Greenvale Ideal Paxton	2198	1.7.30	22	12,182	3·23	393·65	350	Mature	325, 248, 394
			Greenvale Juno Cordyline	3103	9.7.30	20	10,154	3·23	327·62	275	Sr. 3	249
			Castlehill Empress ..	2154	22.7.30	23	10,440	3·45	360·56	350	Mature	315, 371, 390
			Greenvale Oakwood Daisy II.	3105	23.7.30	24	10,460	3·16	330·58	250	Jr. 3	304
			Yorkshire Oakwood Togo	2336	26.7.30	20	11,730	3·51	411·69	350	Mature	298, 221
			Greenvale Countess Oakwood	3100	30.7.30	14	7,143	2·88	205·54	225	Sr. 2	
			Glen Elgin Jessie Segis	Vol. 11	16.8.30	29	17,826	2·91	517·95	325	Sr. 4	341, 533
			Greenvale Mona Keys	2770	19.8.30	33	14,943	3·41	509·55	300	Jr. 4	446, 551
			Greenvale Piebe Patch	1571	12.9.30	30	16,136	3·34	538·81	350	Mature	401, 575, 659
J. Powell, Camperdown (Jersey)	5	5	Mount Violet Sweet Lily	21580	19.7.30	15½	7,350	5·54	407·29	325	Sr. 4	251
			Mount Violet Petite ..	25582	28.7.30	15½	6,222	5·32	330·82	225	Sr. 2	
			Mount Violet Sweetheart	24553	9.8.30	15	7,070	4·69	331·83	250	Jr. 3	245, 327
			Cleveland Countess Lily Petal	21579	13.8.30	15	8,490	5·00	424·65	350	Mature	298, 419
			Mount Violet Petal ..	25581	3.9.30	14	4,835	4·66	225·19	225	Sr. 2	202
R. Poyner, Lilydale (Jersey)	3	2	Lilydale Anthem ..	26141	18.7.30	12½	4,351	5·20	226·20	225	Sr. 2	
			Kyora Jessie 2nd ..	26197	19.7.30	14½	6,105	5·25	320·47	325	Sr. 4	299, 374
			Lilydale Songstress ..	..	11.8.30	17	5,441	4·66	253·72	200	Jr. 2	
A. P. Prout, Leongatha (Jersey)	3	3	Pineleigh Mermaid ..	26144	29.8.30	9	6,603	5·29	348·98	275	Sr. 3	297, 353
			Pineleigh Merley ..	Vol. 18	6.9.30	14	6,108	5·34	326·14	200	Jr. 2	
			Daphne of Wattle Vale	16236	18.9.30	19½	9,096	4·53	412·29	350	Mature	353, 453, 447
R. Purnell, Moriac .. (Jersey)	2	2	Narrawong Lady Jane II.	24556	4.8.30	10	7,046	5·65	397·91	275	Sr. 3	271, 433
			Narrawong Laurie ..	24557	26.8.30	17½	8,157	5·34	435·31	325	Sr. 4	284, 316, 409
Quigley and Bennett, Yinnar (Jersey)	3	3	Ellendale Bluebell 2nd	23383	8.8.30	18½	7,133	5·26	374·84	325	Sr. 4	245, 398
			Belgonia Romany Lass 4th	Vol. 18	13.8.30	20½	7,337	5·09	373·81	200	Jr. 2	
			Ellendale Kirsty 3rd ..	C.R.	12.9.30	22	8,316	5·29	440·16	250	Jr. 3	330
F. Raggatt, Tongala (Jersey)	2	2	Strathbow Goldie 5th	26155	22.7.30	16½	6,714	6·17	414·58	200	Jr. 2	
			Mayland Heather Bell	26150	28.8.30	13	6,219	6·45	401·13	300	Jr. 4	336, 329
Miss H. E. Raleigh, Pakenham Upper (Jersey)	4	4	Burnside Rosemary ..	23385	8.8.30	10	6,318	6·32	399·17	325	Sr. 4	368, 358, 367
			Daffodil 2nd of Goronga Farm	14235	3.9.30	16½	7,938	5·22	414·24	350	Mature	285, 441, 464
			Goronga Farm Daffodil Quinta	26158	13.9.30	11	7,428	5·50	408·23	300	Jr. 4	323, 306
			Goronga Farm Daffodil Chicane	26159	24.9.30	5	5,337	5·41	288·52	275	Sr. 3	263, 250

* 240 days in Test.

STANDARD HERD RECORDS—*continued.*

Owner.	No. completed Test.	No. Certificated.	Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Class.	Previous Yields of Butter Fat.
						lb.	lb.		lb.			
J. D. Read, Springhurst (Jersey)	5	5	Alsyke 2nd of Springhurst	10437	1.7.30	26	9,174	5·90	541·13	350	Mature	487, 541, 536
			Narcissus of Springhurst	18935	20.8.30	21	11,375	5·63	640·17	350	Mature	433, 624, 544
			Gladiolus of Springhurst	12216	20.8.30	29	10,413	5·42	563·97	350	Mature	542, 547, 600
			Springhurst Lily ..	26166	31.8.30	15	4,800	6·45	309·70	225	Sr. 2	368
			Boree 3rd of Springhurst	21602	18.9.30	12	5,678	6·00	340·47	300	Jr. 4	316, 374
A. Rentsch, Tabor .. (Shorthorn)	1	..	Pearl Beauty 10th ..	Vol. 1	16.9.30	16½	7,833	4·29	336·40	350	Mature	
W. S. Richardson, Bacchus Marsh (Jersey)	1	..	*Mikes Vanity of Willis Vale	16325	19.9.30	4	4,095	5·57	228·20	350	Mature	193
Miss S. L. Robinson, Kew East (Jersey)	4	1	Woodside Reprieved 2nd	26444	1.7.30	15½	5,898	4·92	290·10	300	Jr. 4	107
			Bonne Chance ..	13867	30.8.30	13½	7,272	5·39	391·92	350	Mature	460
			Oaklands Sybil ..	14380	1.9.30	15	5,576	4·95	276·19	350	Mature	363, 287
			Bettws-y-Coed ..	19214	23.9.30	17	6,218	5·26	327·12	350	Mature	314, 306
W. P. Rogen, Tatura (Jersey)	8	8	Kantara Wildflower ..	24582	10.7.30	26½	9,546	5·10	486·95	275	Sr. 3	377
			Kantara Ditny's Desire	21626	17.8.30	22	9,308	4·42	411·49	325	Sr. 4	385, 451
			Aveley Silvermine ..	22954	19.8.30	19	9,605	5·59	537·26	325	Sr. 4	346, 417, 522
			Kantara Spring Flower	26203	20.8.30	20½	8,649	5·10	441·28	250	Jr. 3	405
			Kantara Brooklet ..	26200	29.8.30	19	7,628	5·05	385·57	225	Sr. 2	383
			Kantara Ditny's Larkspur	29378	30.8.30	15½	5,475	5·96	322·98	200	Jr. 2	
			Kantara Musk ..	26202	13.9.30	20	7,347	5·04	370·29	225	Sr. 2	330
			Aveley Norma 2nd ..	24224	20.9.30	26	10,002	5·50	550·53	300	Jr. 4	509, 549
C. M. Runciman, Murraydale (Jersey)	4	4	Bideford Carnation ..	26217	12.7.30	7	5,328	6·16	328·28	225	Sr. 2	322
			Bideford Madeline ..	Vol. 18	20.7.30	10	5,756	4·31	248·20	200	Jr. 2	
			Bideford Cream Stockings	26218	30.7.30	9	5,730	5·38	308·17	250	Jr. 3	350
			†Bideford Saphire ..	Vol. 18	8.8.30	..	5,715	4·83	275·84	200	Jr. 2	
D. M. Ryan and Sons, Pirron Yallock (Australian Illawarra Shorthorn)	5	4	Birdie 6th of Alne Bank	7220 N.S.W.	24.8.30	N.O.C.	10,940	3·85	421·70	350	Mature	435, 397
			Bracelet 6th of Glenburn	..	26.8.30	10½	6,367	3·70	235·29	225	Sr. 2	
			Birdie 12th of Alne Bank	Vol. 1	29.8.30	9	6,870	4·36	299·68	200	Jr. 2	
			Fortune 11th of Alne Bank	Vol. 1	2.9.30	18	10,107	3·95	399·31	350	Mature	415
			Mavis 2nd of The Pines	10124	5.9.30	13½	9,069	3·57	323·89	325	Sr. 4	302, 231
R. W. Sadler, Noorat (Ayrshire)	1	1	Burnbrae Cosmos ..	19584	28.8.30	20	6,508	3·95	257·17	200	Jr. 2	
A. H. Schier, Kernot (Ayrshire)	15	5	Scotswood Frolic ..	22070	8.7.30	12½	3,138	5·17	162·23	200	Jr. 2	
			Ayr Brae Marjory ..	15684	28.7.30	14½	6,606	4·03	266·01	325	Sr. 4	181
			Scotswood Gold Tip ..	18916	11.8.30	13	6,039	4·04	244·13	275	Sr. 3	220
			Model of Ayr Brae ..	9970	18.8.30	17½	7,037	3·92	275·54	350	Mature	278, 276
			Scotswood Flirtation ..	22069	20.8.30	16½	6,816	4·35	296·73	200	Jr. 2	
			Meg of Ayr Brae ..	12555	24.8.30	5½	6,657	3·89	258·98	350	Mature	342
			Scotswood Adoration 2nd	18910	24.8.30	16	7,349	3·96	290·96	275	Sr. 3	306, 332
			Pardon of Ben Kell ..	5753	1.9.30	9	6,773	4·01	271·52	350	Mature	336. 314, 359
			Scotswood Mistress ..	10310	7.9.30	15	8,343	3·83	319·32	350	Mature	274, 227, 373, 290
			*Scotswood Rosella ..	14160	14.9.30	4	5,475	4·09	224·08	350	Mature	183, 179, 161
			Scotswood Lady Virtue	18919	14.9.30	10½	6,627	4·53	300·33	275	Sr. 3	259
			‡Scotswood Margaret ..	16617	16.9.30	4	5,910	4·78	282·56	325	Sr. 4	200, 147
			Scotswood Iona Star ..	23226	20.9.30	N.O.C.	5,484	3·82	209·47	200	Jr. 2	
			‡Glencairn Princess Brilliant	22820	20.9.30	4	1,995	3·84	76·70	200	Jr. 2	
			Scotswood Pearl ..	18930	22.9.30	N.O.C.	9,110	4·17	380·28	300	Jr. 4	297, 238

* 210 days in Test. † 269 days in Test. ‡ 240 days in Test.

STANDARD HERD RECORDS—*continued.*

Owner.	No. completed Test.	No. Certificated.	Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Class.	Previous Yields of Butter Fat.
						lb.	lb.		lb.			
H. A. Schler, Rochester (Jersey)	6	5	Preston Playtime ..	25593	30.7.30	17½	7,500	5·25	393·56	300	Jr. 4	348, 394
			Preston Dairy Girl ..	12063	16.8.30	14½	7,691	4·82	370·49	350	Mature	503, 460, 449
			Preston Playmate ..	29445	22.8.30	13	4,857	5·50	267·23	200	Jr. 2	
			Grand View Rosalind	C.R.	23.8.30	8	3,462	4·98	172·45	200	Jr. 2	
			Fairhope Primrose ..	21400	26.8.30	21½	8,993	5·09	457·35	350	Mature	329, 418, 385
			Grand View Gem ..	C.R.	30.8.30	15½	5,823	5·56	323·77	200	Jr. 2	
A. J. Schlipalius, Kilmany South (Jersey)	1	1	Fairbank Flower ..	23432	15.9.30	10½	5,273	6·08	320·36	275	Sr. 3	253
T. J. Scott, Rochester (Jersey)	2	2	Preston Lady Capture 2nd	25604	18.8.30	N.O.C.	11,037	5·77	636·60	250	Jr. 3	310, 268
			Theresa Vale Attraction	C.R.	20.8.30	16½	5,690	5·47	311·17	200	Jr. 2	
T. Sebire, Wandin-Yallock (Jersey)	3	2	Colleen of Wooringa ..	12875	1.8.30	11	4,965	5·09	252·85	350	Mature	337
			Holmlea Violet ..	29518	6.8.30	9	5,499	5·98	328·58	225	Sr. 2	280
			Holmlea Lady Gwen ..	23453	19.9.30	12	7,238	5·39	390·43	300	Jr. 4	380
C. H. Sell, Irrewillipe East (Jersey)	9	4	Staghorn Astor ..	22975	6.7.30	15½	6,134	4·97	305·11	325	Sr. 4	371, 349
			Strawberry Vale Tulip	29466	6.7.30	13	4,667	4·84	226·10	200	Jr. 2	
			Mendip Pearl 2nd ..	23463	7.7.30	20	7,738	5·04	389·86	350	Mature	489, 453, 322
			Staghorn Morocco's Violet	18636	21.7.30	6½	5,585	4·96	277·28	350	Mature	256, 307, 334
			Strawberry Vale Butterfly	29464	23.7.30	14	4,166	5·08	211·62	200	Jr. 2	
			Staghorn Buttercup ..	18632	3.8.30	13	5,582	5·33	297·54	350	Mature	234, 329, 316
			Strawberry Vale Gaiety Lass	29465	16.8.30	13	4,538	5·24	237·85	200	Jr. 2	
			Bolinda's Handsome Girl of Linga Longa	16598	19.8.30	8½	3,965	6·50	257·77	350	Mature	276, 371, 427
			Avalon Noble's Belle 3rd	25230	19.8.30	11½	4,769	4·75	226·38	250	Jr. 3	226
Dr. V. S. Sewell, Berwick (Friesian)	7	4	Winlaton Cordelia ..	C.R.	10.7.30	22	7,667	3·40	260·96	275	Sr. 3	288
			Burnbank Inka Rosey	2123	26.7.30	26	9,266	3·10	287·10	350	Mature	244
			Road's End Thenea Dellhurst	C.R.	1.8.30	23	10,086	3·53	356·40	350	Mature	250
			Road's End Caia ..	..	5.8.30	23	6,046	3·40	205·57	200	Jr. 2	
			Burnbank Piebe Bainfield	2382	12.8.30	31	12,350	3·02	372·83	350	Mature	233
			Road's End Alinda ..	3196	29.8.30	23	10,601	3·34	353·97	275	Sr. 3	322
			Burnbank Piebe Domino	2132	19.9.30	13	10,024	3·47	347·72	350	Mature	361
Dr. V. S. Sewell, Berwick (Guernsey)	1	1	Rosewood Enid ..	..	29.8.30	7	6,153	5·75	353·82	325	Sr. 4	
C. L. V. Sharp, Murrabit (Friesian)	1	..	Burnbank Manor Kroons	2381	19.7.30	22	10,011	3·31	331·08	350	Mature	189, 300, 317
T. E. Simpson and Son, Ferntree Gully (Jersey)	2	2	Wompini Joybell ..	25610	27.7.30	22	7,583	5·55	420·66	250	Jr. 3	265
			Wompini Beauty ..	29480	1.8.30	14½	7,128	5·91	421·33	300	Jr. 4	308
Smith and Sons, Woodend (Friesian)	3	3	Halecote Opera Girl ..	1281	12.7.30	29½	19,524	3·08	602·30	350	Mature	650, 762, 671
			Glen Elgin Iris Domino	2759	27.7.30	17	11,463	3·40	389·26	275	Sr. 3	354
			Darenth Black Rose ..	2727	13.8.30	33½	16,272	5·59	583·88	325	Sr. 4	345, 468
G. and W. Smith, Fish Creek (Jersey)	6	6	Rydon Gem ..	21671	13.7.30	24½	8,945	4·56	407·58	325	Sr. 4	284, 315, 390
			Miss Maitland of Elouera	13395	14.7.30	13½	6,483	5·50	356·86	350	Mature	395, 362
			Rydon Pearl ..	29490	16.7.30	14½	4,722	5·24	247·21	200	Jr. 2	
			Rydon Lady Patsy ..	29489	20.7.30	13½	5,325	5·61	298·54	200	Jr. 2	
			Rydon Maitland Meg	23449	4.9.30	10	7,337	4·68	343·03	275	Sr. 3	288, 368
			Rydon Vida ..	20368	13.9.30	12½	5,529	6·50	359·28	250	Jr. 3	382

STANDARD HERD RECORDS—*continued.*

Owner.	No. completed Test.	No. Certificated.	Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Class.	Previous Yields of Butter Fat.
						lb.	lb.		lb.			
C. Steele, Shoreham (Jersey)	1	1	Werribee Clementine's Princess 3rd	24583	19.8.30	18	7,861	5·66	445·32	300	Jr. 4	372, 349
F. P. Stephens, Tongala (Jersey)	7	7	Boveagh Yvette ..	29512	29.6.30	15½	6,245	6·03	376·69	225	Sr. 2	333
			Keepsake Treasure of Swansea	26233	24.7.30	20	6,744	6·62	446·28	275	Sr. 3	477, 576
			Coolwoola Montrose Firefly	29513	30.7.30	25	8,120	5·19	421·19	250	Jr. 3	348
			Aveley Tragedy Queen	29511	14.8.30	16	6,648	5·31	353·12	225	Sr. 2	303
			Fourshell's Princess Hope	29515	2.9.30	22½	8,543	5·45	465·63	225	Sr. 2	400
			Aveley Lettie 4th ..	26294	3.9.30	5½	5,714	5·88	336·00	275	Sr. 3	346, 388
			Ipomea of Swansea ..	21248	16.9.30	36	12,323	5·88	724·51	350	Mature	475, 674, 668
J. M. Stockdale, Traralgon (Jersey)	1	1	Avalon Mercede's Belle 5th	22936	20.9.30	15½	7,670	5·21	399·32	300	Jr. 4	361
R. Stockdale, Koonwarra (Jersey)	2	2	Willis Vale Captor's Pride	26235	28.6.30	17½	8,474	4·76	403·37	250	Jr. 3	
			Bass Valley Maud's Princess	28442	27.8.30	15½	6,813	5·48	373·65	300	Jr. 4	
Mrs. L. T. Stoll, Rokeby (Jersey)	2	1	Melrose Chevy 18th ..	25692	22.8.30	15	7,034	4·92	346·20	225	Sr. 2	
			Gwen of Benguella ..	17425	23.8.30	18½	7,299	4·39	320·56	350	Mature	189, 272
Geo. Taylor, Caldermeade (Ayrshire)	5	4	*Letty of Gleneira ..	18073	9.8.30	4	5,475	4·00	218·73	275	Sr. 3	233, 177
			Alanvale Snowdrop ..	14862	10.9.30	9	8,771	4·11	360·63	350	Mature	212, 298
			Eldorado Hetty ..	19868	23.9.30	8½	6,140	3·93	241·07	200	Jr. 2	
			Eldorado Questa ..	21355	24.9.30	6	5,130	4·04	207·43	200	Jr. 2	
			Eldorado Sheila ..	17797	24.9.30	6½	6,402	4·19	268·30	250	Jr. 3	255
Telford Bros., Kyabram (Ayrshire)	4	4	Hyde Park Lilac ..	20363	5.9.30	11½	6,002	4·11	246·89	200	Jr. 2	
			Hyde Park Daphne 2nd	18311	7.9.30	25½	9,603	4·24	407·03	225	Sr. 2	342
			Hyde Park Rosina ..	16357	11.9.30	5½	7,842	4·33	339·19	300	Jr. 4	233, 296
			Hyde Park Lady Doris	13656	11.9.30	10½	8,867	3·83	339·37	325	Sr. 4	297, 346, 355
B. G. Tomasetti, Drouin West (Ayrshire)	3	2	Glen Athol Fashionable	12242	17.8.30	20	7,242	4·13	298·81	350	Mature	
			Leithvale Marjorie ..	20468	18.8.30	11	6,560	4·52	296·28	275	Sr. 3	
			Glencorren Violetta ..	20120	20.9.30	18	6,855	3·96	271·23	200	Jr. 2	
F. Trevaskis, Tongala (Jersey)	15	14	Garenne of Brucevale	13749	23.7.30	18	7,286	5·12	373·33	350	Mature	436, 462, 477
			Ballara Beauty 2nd ..	29537	3.8.30	13	4,680	6·38	298·78	200	Jr. 2	
			Ballara Garenne's Fancy 3rd	24643	10.8.30	16	6,644	6·01	399·45	200	Jr. 2	
			Ballara Ideal ..	26252	13.8.30	20	7,668	5·47	419·71	250	Jr. 3	375
			Miss Guy of Tarnpirr ..	9745	13.8.30	23	9,202	5·83	536·07	350	Mature	564, 604, 631
			Amwell Dainty ..	24374	14.8.30	22	8,614	4·49	387·07	275	Sr. 3	318, 318
			Malwand Flirt ..	25877	15.8.30	8	5,625	5·06	284·69	300	Jr. 4	294
			Flower 3rd of Ballara ..	21711	16.8.30	24	9,341	4·75	443·63	350	Mature	324, 419, 443
			Ballara Starbright 2nd	26255	28.8.30	16	7,343	5·20	381·81	225	Sr. 2	333
			Ballara Model 4th ..	29539	31.8.30	13	4,834	5·77	278·93	200	Jr. 2	
			Ballara Model 3rd ..	24624	3.9.30	7	7,293	5·48	399·71	275	Sr. 3	380, 410
			Ballara Moira 3rd ..	26253	4.9.30	12	5,160	5·88	303·17	250	Jr. 3	289
			Ballara Romany Lass ..	26254	13.9.30	10	7,774	5·10	396·46	225	Sr. 2	353
			Ballara Bluebell ..	26250	17.9.30	13	7,141	5·71	407·84	225	Sr. 2	337
			Lassie 2nd of Ballara ..	18999	25.9.30	13½	9,197	5·38	495·10	350	Mature	399, 474, 475
T. H. Trigg, Dennington (Jersey)	5	..	Lipook Fidgett ..	23478	1.7.30	13½	5,906	5·27	311·54	350	Mature	
			Lipook Fidgett 2nd ..	29544	29.7.30	10	5,753	4·77	274·35	300	Jr. 4	
			Sylvia 4th of Imlay ..	15637	12.8.30	8½	5,408	4·51	243·97	350	Mature	
			Lipook Molly ..	Vol. 18	1.9.30	8	3,461	4·77	165·01	200	Jr. 2	
			†Lipook Little Annie ..	25636	18.9.30	4	5,085	4·50	228·93	300	Jr. 4	287

* 180 days in Test. † 210 days in Test.

STANDARD HERD RECORDS—*continued.*

Owner.	No. completed Test.	No. Certificated.	Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Class.	Previous Yields of Butter Fat.
						lb.	lb.		lb.			
J. F. Tuckey, Alberton (Ayrshire)	15	11	Tregorland Kitty ..	19080	19.7.30	10	6,858	4·70	322·03	275	Sr. 3	300, 302
			Tregorland Ida ..	19075	6.8.30	17	6,770	3·77	255·50	275	Sr. 3	291
			Irene of Tregorland ..	14265	9.8.30	5	8,162	4·73	385·87	350	Mature	300, 310, 344
			Tregorland Ivoline ..	15594	9.8.30	20½	9,054	4·20	380·52	350	Mature	268, 357, 377
			Tregorland Kink ..	20793	10.8.30	6½	6,126	4·21	257·83	250	Jr. 3	220
			Tregorland Tourmaline	16868	21.8.30	10½	7,959	4·21	335·07	325	Sr. 4	202, 313
			*Kitten of Tregorland ..	14270	22.8.30	4	7,560	4·14	312·88	350	Mature	261, 271, 331
			Tregorland Keswick ..	19079	24.8.30	N.O.C.	8,352	4·09	341·47	275	Sr. 3	279, 310
			Kith of Tregorland ..	14269	24.8.30	11	9,186	4·54	417·38	350	Mature	369, 389, 455
			Tregorland Key ..	15597	29.8.30	N.O.C.	7,392	3·97	293·70	350	Mature	237, 319, 310
			Tregorland Kedge ..	20792	4.9.30	N.O.C.	8,022	4·44	356·55	250	Jr. 3	285
			Tregorland Koala ..	20794	5.9.30	19	8,028	4·38	351·84	250	Jr. 3	227
			Tregorland Isobel ..	20791	5.9.30	N.O.C.	5,420	4·15	225·06	250	Jr. 3	186
			Tregorland Ivy ..	22157	8.9.30	14	5,171	4·06	210·12	200	Jr. 2	
			Tregorland Kirk ..	22161	10.9.30	21½	6,353	3·62	230·23	200	Jr. 2	
W. Tulloch, Kongwak (Ayrshire)	10	1	Leila of Ayr Brae ..	13943	4.7.30	10½	6,368	3·88	247·06	350	Mature	229
			Gleneira Gladness ..	16149	18.7.30	6	6,816	4·06	276·44	350	Mature	291, 328
			*Toolleen Vulcan ..	14892	19.7.30	9½	5,760	3·60	207·50	350	Mature	229
			*Laughter of Gleneira ..	11753	23.7.30	14½	6,900	4·04	278·67	350	Mature	349, 359, 364
			Pyramid View Brilliant	16549	24.7.30	6½	4,815	4·08	196·37	300	Jr. 4	
			Carrara Laughter ..	19709	31.7.30	8	4,937	4·16	205·57	200	Jr. 2	
			Toolleen Mermaid ..	14883	1.8.30	9	5,531	3·83	211·90	350	Mature	241
			†Gleneira Louise ..	16165	7.8.30	4	4,770	4·01	191·20	350	Mature	326, 308
			†Hester of Ayr Brae ..	12553	20.8.30	4	5,415	3·75	203·14	350	Mature	259
			Madge of Ayr Brae ..	13946	24.8.30	7	6,756	3·66	247·20	350	Mature	
J. Unthank, Somerville (Jersey)	7	7	Hope of Mooroodue ..	23480	11.8.30	20	8,988	5·16	464·18	350	Mature	377
			Mooroodue Lassie ..	21718	14.8.30	17½	8,304	5·37	446·08	350	Mature	399
			Mooroodue Ayalie ..	26259	18.8.30	20	8,613	5·00	430·72	250	Jr. 3	
			Mooroodue Norma ..	26261	18.8.30	17½	6,456	5·40	348·37	225	Sr. 2	
			Silver Maid 2nd of Glenwood	19003	1.9.30	17¼	8,168	6·13	501·01	350	Mature	535
			Mooroodue Hopeless ..	26260	11.9.30	17½	8,937	4·45	397·66	300	Jr. 4	390
			Mooroodue Queenie ..	Vol. 18	13.9.30	15½	5,531	5·90	326·32	200	Jr. 2	
Vaughan Bros., Girgarr (Jersey)	3	3	Dolly of Lynroy ..	10510	27.7.30	28	11,195	4·32	483·35	350	Mature	
			Lynroy Nancy 2nd ..	24633	19.8.30	22½	9,653	5·02	485·00	325	Sr. 4	374
			Lynroy Viola ..	24635	15.9.30	12½	6,561	5·42	355·32	325	Sr. 4	
V. A. Venn, Myrtlebank (Jersey)	3	2	St. Alban's Sweet Maid 2nd	23045	12.7.30	20	9,152	4·53	414·15	325	Sr. 4	
			Dinkum Rose of Hazeldale	17469	14.8.30	18	6,894	5·10	351·32	350	Mature	319, 368, 342
			Hazeldale Ruby 2nd ..	25555	2.9.30	8½	5,322	4·73	251·57	275	Sr. 3	294, 326
E. J. Vagg, Leongatha (Jersey)	9	9	Sunrise of Rosehill ..	14851	6.8.30	7	8,618	4·74	408·17	350	Mature	327, 375, 411
			Bonnay Mystery Maid 3rd	..	8.8.30	17	5,861	5·08	297·47	200	Jr. 2	
			Winnie's Midget of Welbourne	21722	11.8.30	17	6,391	6·58	420·31	350	Mature	370, 466, 436
			Bonnay's Silver Maid	26264	14.8.30	13½	5,742	5·44	312·61	225	Sr. 2	
			Bonnay Jessamine ..	23489	22.8.30	27½	9,969	5·99	596·67	350	Mature	435
			Golden Pansy of Welbourne	21721	30.8.30	25	8,988	5·08	456·84	350	Mature	359, 397, 433
			Bonnay's Ruby Bell ..	23491	16.9.30	23½	8,652	4·82	417·30	350	Mature	320, 413, 455
			Bonnay's Golden Pansy	26263	22.9.30	15	5,464	5·47	298·65	250	Jr. 3	245
			Bonnay Lady's Love ..	29564	23.9.30	17	7,753	6·39	495·57	275	Sr. 3	333, 425
Mrs. F. E. Vale, Yarram (Jersey)	1	1	Rosalind 15th of Brookfield	21566	15.8.30	22	7,691	5·20	399·79	300	Jr. 4	290, 206
J. R. Van Brummelan, Ferntree Gully (Friesian)	3	3	Bolero Inka Posch ..	Vol. 11	23.8.30	22	7,164	3·19	228·22	225	Sr. 2	
			Bolero Nooitje ..	2355	23.8.30	30	10,905	3·94	429·78	325	Sr. 4	
			Bolero Rose Marie ..	Vol. 11	1.9.30	32	12,038	3·07	369·59	250	Jr. 3	

* 240 days in Test. † 210 days in Test.

STANDARD HERD RECORDS—*continued.*

Owner.	No. completed Test.	No Certificated.	Name of Cow.	Herd Book No.	Rate of Calving.	Milk last day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Class.	Previous Yields of Butter Fat.
						lb.	lb.		lb.			
C. S. Walker, Swan Hill (Jersey)	3	3	Warwick Bell Bird ..	26270	27.6.30	28	8,051	5·07	407·99	275	Sr. 3	229
			Warwick Beauty ..	19012	6.8.30	16	7,788	4·54	353·81	350	Mature	330, 330
			Warwick Pollyana ..	17505	21.9.30	13	8,160	4·37	356·71	350	Mature	311, 353, 332
E. B. Walkley, Glen Forbes (Jersey)	3	..	Murta Lillie 4th ..	25335	4.8.30	15	6,051	4·59	277·97	325	Sr. 4	
			Isla of Airlie ..	18697	23.8.30	7½	5,603	4·95	277·19	350	Mature	358
			Maybe's Beauty of Airlie	16636	8.9.30	11½	5,715	4·74	270·70	350	Mature	358
A. Wallace, Bendigo (Ayrshire)	4	2	Spring Dale Fancy ..	20753	4.9.30	13½	6,327	4·04	255·71	200	Jr. 2	
			Glen Cooee Valerie ..	15089	11.9.30	12	7,421	3·87	287·16	350	Mature	321
			Spring Dale Beauty ..	18937	20.9.30	11	6,158	4·72	290·64	225	Sr. 2	
			*Glen Cooee Waratah ..	13871	21.9.30	4	8,785	3·67	322·35	350	Mature	270
Warragul H.S., Warragul (Red Poll)	1	1	Gipps Talavera ..	1588A	23.8.30	24	11,253	3·63	408·30	325	Sr. 4	366, 424
H. Watson, Leongatha (Jersey)	14	12	Kitty's 5th Duchess of Round Hill	21335	9.7.30	18½	8,913	5·35	476·97	350	Mature	368
			Cosma's Treasure ..	24390	16.7.30	14	5,690	6·02	342·80	275	Sr. 3	268
			Mavis 3rd of Queen's Vale	17761	21.7.30	15	7,733	4·25	328·69	350	Mature	343, 329
			Kitty 2nd of Round Hill	9241	10.8.30	20	7,817	4·75	371·12	350	Mature	363, 266
			Stumpy 2nd of Round Hill	16223	16.8.30	13	6,792	5·65	383·85	350	Mature	412
			Kathleen's Duchess of Round Hill	21332	20.8.30	14	4,992	4·90	244·58	350	Mature	293, 263
			Navel's Duchess of Round Hill	21338	24.8.30	20	8,330	5·65	470·26	350	Mature	402, 355
			Minnehaha 4th of Clarendon Eyre	15040	25.8.30	17½	9,027	4·81	434·44	350	Mature	372, 405
			Kitty 7th of Round Hill	19877	26.8.30	16½	8,108	4·85	393·03	350	Mature	345, 329
			Treasurer's Duchess of Round Hill	21342	31.8.30	16½	9,008	5·42	488·47	350	Mature	376, 414
			Kitty 6ths Duchess of Round Hill	21336	4.9.30	14	8,195	5·39	441·53	350	Mature	354, 319
			Cosmo's Frolic ..	24387	15.9.30	14½	5,989	5·37	321·49	275	Sr. 3	302
			Hazel Grange Kitty's Princess	29592	22.9.30	12	4,616	5·05	232·99	200	Jr. 2	
			Kathleen 2nds Duchess of Round Hill	21333	26.9.30	16	8,345	5·93	494·84	350	Mature	379, 304
H. L. Webb, Sunbury (Ayrshire)	7	7	Model of Holly Green	6953	13.7.30	20	9,492	4·07	386·06	350	Mature	375, 382, 381
			Alice of Holly Green ..	11493	28.7.30	21	9,470	3·96	375·08	350	Mature	336, 344, 375
			Quest of Holly Green	14280	29.7.30	13	9,504	3·94	374·60	350	Mature	417, 343
			Holly Green Alma ..	18267	29.7.30	15	6,132	4·37	267·79	250	Jr. 3	
			Holly Green Queenly ..	18275	9.8.30	20	6,940	4·36	302·35	225	Sr. 2	228
			Holly Green Queen's Gift	20339	18.9.30	7½	5,165	4·02	207·74	200	Jr. 2	
			Holly Green Rosa ..	20342	20.9.30	16	6,509	3·95	257·07	200	Jr. 2	
S. K. Webb, Neerim North (Jersey)	2	..	Springdale Butter Girl	24645	22.7.30	12	5,937	5·53	328·11	350	Mature	257, 237
			*Burnside Mayflower 2nd	21736	16.9.30	4	5,610	5·19	291·39	350	Mature	227, 287, 300
W. O. Westlake, Portland (Jersey)	1	1	Goldfinch 2nd of Grangelea	14129	26.9.30	15	7,470	4·85	362·66	350	Mature	396, 438, 451
R. S. Williams, Kongwak (Jersey)	7	6	Kongwak Princess ..	25653	16.7.30	10½	3,846	6·68	256·95	225	Sr. 2	
			*Burramere Duchess 2nd	C.R.	23.7.30	10½	3,511	6·60	231·90	225	Sr. 2	270
			*Linga Longa Bright Eyes 2nd	29607	24.7.30	10½	3,465	6·17	213·91	275	Sr. 3	338
			Kongwak Starbright ..	..	3.8.30	16	5,874	4·32	253·91	200	Jr. 2	450
			Linga Longa Cloudy 2nd	29608	5.8.30	7½	5,357	6·35	340·27	275	Sr. 3	292, 345
			Kongwak Columbine ..	..	8.8.30	15	6,683	4·84	323·48	200	Jr. 2	
			Kongwak Colleen ..	..	4.9.30	N.O.C.	4,958	6·26	310·21	200	Jr. 2	

* 240 days in Test.

STANDARD HERD RECORDS—*continued.*

Owner.	No. completed Test.	No. Certificated.	Name of Cow.	Herd Book No.	Rate of Calving.	Milk last day of Test.	Milk.	Average Test.	Butter Fat.	Standard required.	Class.	Previous Yields of Butter Fat.
						lb.	lb.		lb.			
W. J. Williams, Kongwak (Jersey)	5	4	Waterloo Farm Rose 2nd	25373	16.7.30	11½	6,210	5·66	351·33	325	Sr. 4	383, 346
			Waterloo Farm Maud's Gift	25372	11.7.30	10½	6,540	5·53	361·57	350	Mature	380, 310
			Maud's Hope of Waterloo Farm	14995	23.7.30	17½	6,158	5·15	317·15	350	Mature	363, 266
			Spec of Linga Longa ..	21113	31.7.30	14	5,835	6·49	378·41	350	Mature	196, 416, 366
			Waterloo Farm Beauty	25371	12.8.30	12½	6,906	5·90	407·25	350	Mature	420, 381
A. C. Willis, Paschendale (Jersey)	4	2	Gay Lass of Clover Flat	17512	10.7.30	18	8,297	4·72	391·83	350	Mature	376, 379, 395
			Carney Dell Brilliant ..	Vol. 18	29.7.30	N.O.C.	3,470	4·56	158·28	200	Jr. 2	
			Carney Dell Bonnie Lass	29609	1.8.30	N.O.C.	5,462	4·33	236·68	250	Jr. 3	235
			Carney Dell Fortune Teller	Vol. 18	8.8.30	N.O.C.	4,460	4·86	216·61	200	Jr. 2	
Jos. Wilmot, Bullarook (Jersey)	4	3	Princess Jessie of Uphaven	16767	21.8.30	14	7,758	5·24	406·46	350	Mature	390
			Princess of Uphaven ..	15650	23.8.30	23½	9,942	4·65	462·04	350	Mature	474
			*Tilly of Uphaven ..	21748	7.9.30	4	4,530	4·65	210·62	325	Sr. 4	202
			Britannia's Princess of Uphaven	21747	18.9.30	17½	7,035	4·68	329·44	325	Sr. 4	309
D. C. Wilson, Derrinallum (Jersey)	3	1	Silvie's Girl of Kinross	15624	20.7.30	12½	6,369	4·65	296·08	350	Mature	324, 358
			Saskatchewan Tressa ..	Vol. 18	31.7.30	8	3,926	5·58	219·05	200	Jr. 2	
			Elaine 7th of Milksham Park	13051	29.8.30	10	6,524	5·13	334·75	350	Mature	305
J. V. M. Wood, Heidelberg (Jersey)	10	10	Bluebell of Farringdon	21771	9.7.30	22½	8,583	5·26	451·29	350	Mature	317, 403, 457
			Aberdour Ranee ..	23519	28.7.30	22	8,376	6·52	545·83	350	Mature	324, 445
			Clarendon E. Happy Days	29619	29.7.30	26	8,343	5·20	433·77	200	Jr. 2	
			Clarendon E. Aunt Chloe 2nd	29615	7.8.30	14½	7,175	4·90	351·93	250	Jr. 3	334
			Clarendon Eyre Irene	29620	8.8.30	18	6,743	5·77	389·40	250	Jr. 3	326
			Madonna of Aberdour	18537	23.8.30	27	9,548	5·54	528·61	350	Mature	301, 384, 552
			Clarendon E. Tangerine	26290	25.8.30	19	7,617	5·46	415·81	275	Sr. 3	354
			Clarendon E. Lilac Domino	29622	6.9.30	18½	7,011	6·10	427·68	225	Sr. 2	346
			Clarendon E. Camilie 2nd	Vol. 18	17.9.30	18	6,324	5·41	342·06	200	Jr. 2	
			Clarendon E. Waltz Dream	Vol. 18	19.9.30	18½	6,648	5·53	367·85	200	Jr. 2	
W. Woodmason, Oakleigh (Jersey)	2	2	Rarity 14th of Melrose	19978	9.7.30	25½	9,227	4·92	454·04	350	Mature	448, 449, 395
			Vanilla 24th of Melrose	19979	11.9.30	17	7,522	5·71	429·27	350	Mature	231, 290, 385
G. T. Young, Sedgwick (Jersey)	5	4	Preston Flower ..	10543	5.7.30	17½	9,006	4·41	396·87	350	Mature	
			Preston Sweet Maid ..	Vol. 18	10.7.30	15	6,080	4·86	295·22	200	Jr. 2	
			Preston Bonnie Jewel..	C.R.	26.7.30	13½	5,805	5·52	320·51	200	Jr. 2	
			Preston Fuchsia ..	21802	15.8.30	21	8,496	5·20	441·99	350	Mature	450
			Preston Golden Elf ..	21803	29.8.30	15	6,956	4·95	343·98	350	Mature	436
			Preston Defender's May	21800	11.9.30	17½	8,108	5·11	414·65	350	Mature	379

* 240 days in Test.

NOTE.—*In cases where cows have more than three previous records only the three best are published here.*

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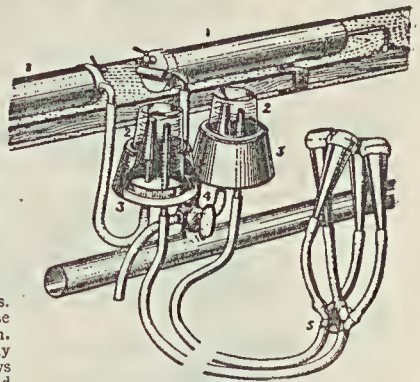

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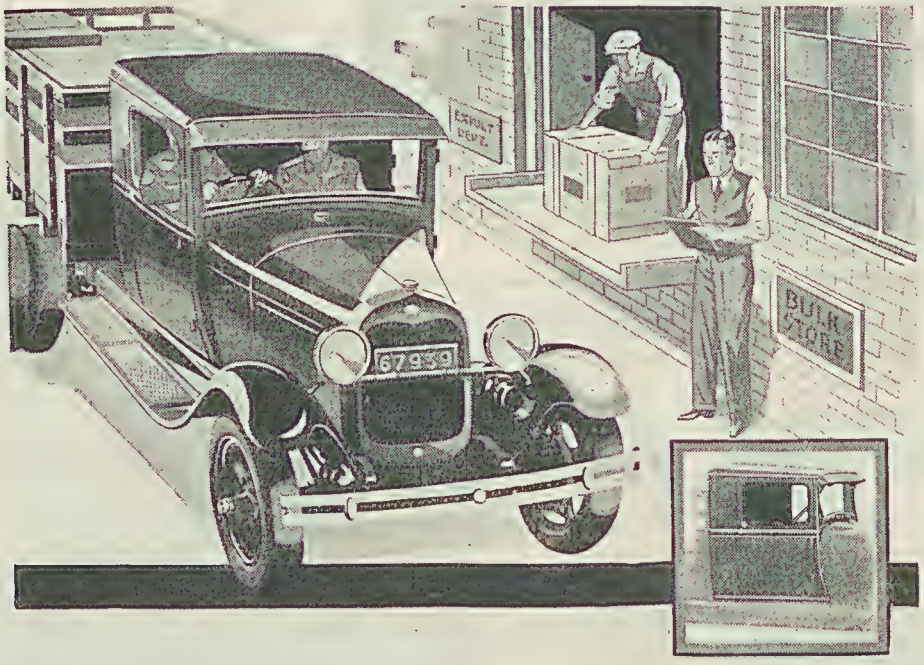

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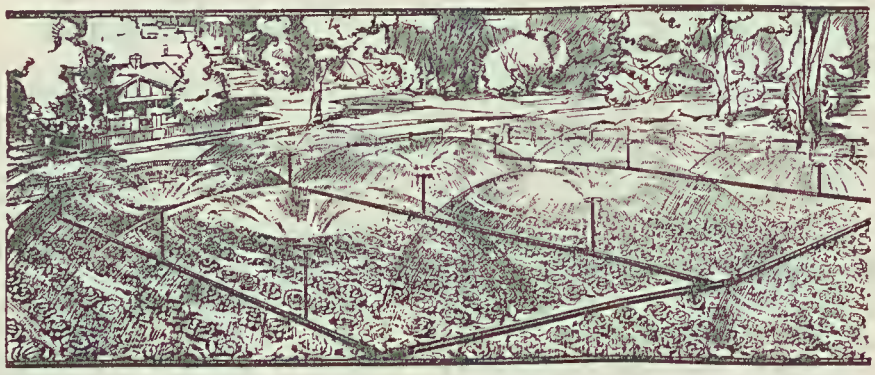

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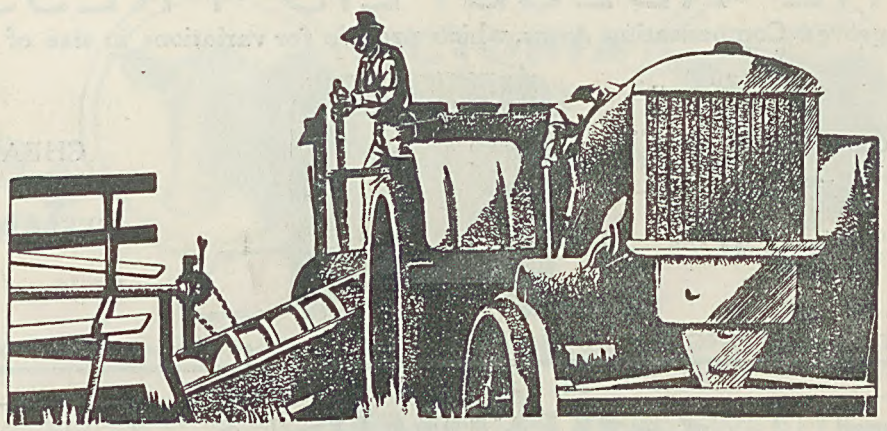

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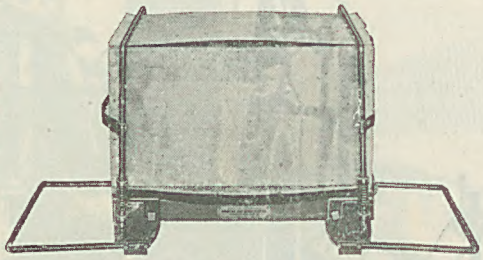

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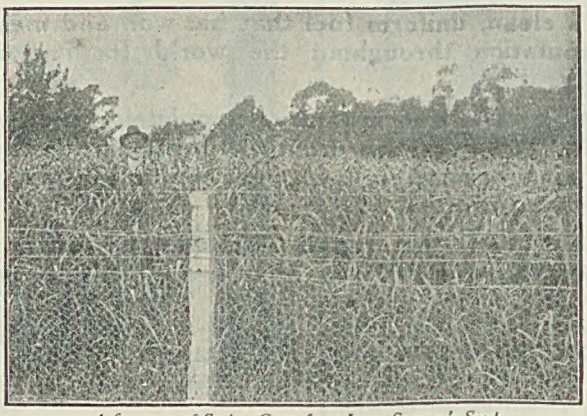

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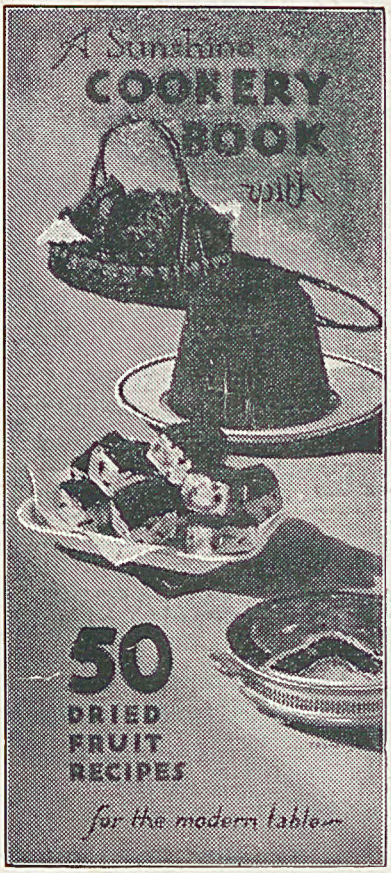

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